SIMPLE THINGS:
The Alzheimer’s Space

A project submitted in fulfillment of the requirements for the degree of Masters of Arts (Interior Design by Research)

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Oct 2006
Abstract:

Modern medicine, science, and technology have created a world where people are living longer and fuller lives. But the price tag for this "time in a bottle" might be greater than we had imagined. As more of the population enters their "Golden years" they are confronting with serious diseases such as stroke, late onset diabetes, arthritis, and the most sinister of all, Alzheimer's disease. Alzheimer's disease causes an erosion of cognitive ability, which ultimately results in death. Due to the fact that there is currently no cure for the disease, treatment focuses on symptoms and maintaining the general health of the sufferer. As the mind looses footing in its battle with the disease, it becomes increasingly important that other outside sources pick up the lost slack.

The struggle of those stricken with Alzheimer's disease warrants an exploration into how space and spatial qualities can be manipulated to create an environment that will, in tandem with treatment, boost the well being of the resident.

The seriousness of Alzheimer's disease places a great demand and responsibility on the shoulders of architects and designers to become more enlightened and informed. By understanding the nature of Alzheimer's disease and its symptoms, a design response can be developed that will greatly benefit those living with dementia.

The aim of this Masters candidature is to explore and create design projects, in the context of the interior environment, which will provide the Alzheimer's sufferer with the support and stimulation needed to live a dignified life in the face of their ever-changing, ever-unfolding disease.
Acknowledgements:

A Special thanks to:

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Masters of Interior Design

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June-1-2004

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a special thanks to:
Lydia Johnston, Heidi Johnston, Judy Stotlar, Mauren Mcgrath, Morgan Phillips, David Bagot, and the nursing staff at; Vonlea manor, Newcomb private nursing home, and the Lutheran aged care centre.
Alzheimer’s disease, I do not like you.
Not at all.

But now that you have
intruded into the life of my family,
I will learn to live with you.

You ARE powerful.
Your cruel winds have bruised
and buffeted me.
Yet, you will never defeat me.

I will face you, lean into you,
storm back at you,
and find my own strength.

I will accept this terrible mind-altering illness,
Reshape my life,
change, and grow.

But Alzheimer’s disease, you cannot cripple my love,
Suppress memories of what we shared,
silence courage,
or conquer my spirit. (Grollman, “When Someone You Love Has Alzheimer’s: A Caregiver’s Journey page 134)
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This section of the page is dedicated to pictures, sketches, and diagrams. Although some examples may be detailed they are not intended as solutions, they are to draw inspirations.

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introduction:

Advances in medical science, changing attitudes, and innovative styles of care have begun to greatly benefit those living with Alzheimer's disease. To further serve the Alzheimer's resident, it is the responsibility of those in the field of design to become informed on design for those with dementia. This will allow for sensitive design responses which establish dignity, privacy, and independence; and provide the social and psychological support required to maintain a sense of self-worth and purpose.

This brings to light the question; What is the appropriate architecture for the shattered and disintegrating mind of the Alzheimer's resident?

Most of the built environment the Alzheimer's resident inhabits is so unsuitable that they are unable to use it without direct assistance. Attempts have been made to evaluate the effect of different environments on those suffering from dementia, but since facilities are seldom directly comparable, and no two groups of Alzheimer's sufferers are passing through the same stage of the disease at the same time, this remains more of an art than a science. Early in the design process designers must consider the needs and activities of residents within the space. Alzheimer's disease results in a drastic reduction in control over the environment. While others types of users may easily overcome an inappropriate or limited environment, an Alzheimer's resident's whole way of life may be limited by the distance between his or her room and other key spaces. This places a great weight on the shoulders of the designer. The designer must respond by becoming aware of the issues an Alzheimer's resident faces.

The most powerful educational tool the designer has at their disposal is an architectural manual. A manual allows the designer to translate identified spatial issues into a statement of physical, spatial, and environmental needs. The manual should possess key requirements, intentions, and spatial qualities. These requirements must be presented to the designer in an open-ended manner to deal with long-range changes in the needs of the users, philosophy of care, and the physical setting. By establishing the qualities of the space, the manual becomes a "kit of parts" which permits a variety of solutions to be developed. This permits regionally appropriate solutions and encourages innovation to satisfy unique conditions.

The aim of this particular manual is to lay the foundation for the production of a space that transcends the common nursing home or aged care facility, by providing a place where residents devastated by Alzheimer's can have the option to interact with their environment while moving or resting. A space where much needed stimulation can come to the resident, or be sought after. A space where through out the course of the disease residents can rely on the senses they still possess, and slow the cognitive loss they are experiencing.

It should be noted that even though the specific focus of this manual has been set upon the Alzheimer's resident, a transfer can, and should be made to those suffering with other dementias. Dementia is a broader classification in which Alzheimer's disease lies. Alzheimer's disease was chosen as the focus for this manual because it covers the entire scope of dementia, and therefore facilitates an easy transfer.

It must also be stated that this manual focuses on the issues facing those residents in assisted living facilities. Alzheimer's disease is a chronic disease lasting in many cases between 10-15 years. Those suffering early in the disease may seem to be functioning on a seemingly normal level; where those at the end may be bed ridden and seemingly comatose. This manual centers on residents who are ambulatory, and experiencing mild to severe dementia.
This manual takes an organic approach to the way the material is presented. This manual assumes the fact that all presiding building codes and regulations will be followed. This allows the manual to become less focused on the technical aspect of design and more on the qualities the space must posses. This may make the manual appear on the surface more general, but in actuality it makes it more user specific by appealing to the resident. Codes and standards are applied to every building type, but this manual aims to address the Alzheimer’s resident on an intimate level. More technical information like adjacencies, specifications, and, spatial requirements appear as appendices.

It also must be stated that this manual centers around the corridor and shared circulation space. Most everyone, residents, visitors, and care givers experience the space from the corridor. It is a source of action, activity, and movement. It provides the resident with the maximum amount of stimulation. The corridor also is the point which ties all other spaces together. Since the corridor is a link, the principles and ideas of this manual will easily be transferred to adjacent spaces.
dignity to the dementia resident:

Design can play a part in building the attitudes of residents for good or ill. A rigid daily routine or constraints imposed by the building should not be allowed to interfere with the residents natural rights; Privacy, autonomy, freedom of sexuality, religious beliefs and practice, control of their own financial affairs, freedom to come and go, to take risks, and to be treated with dignity. (Torrington; “Care Homes For Older People: A Briefing and Design Guide”, page 3).

Above all, those living with Dementia should be treated as a human, and thus they deserve the same respect, care and attention as any member of society. Furthermore:

- Residents must receive personal and intimate contact with staff and their environment.

Social and personal contact is very beneficial to the well being of the dementia resident. As the disease progress the resident can feel increasingly isolated and alone. For many residents the most important events in their lives are visits from their relatives and friends. (Aranyi; “Design Of Long-Term Care Facilities”, page 3) To increase the benefits of social contact, visitors, families, and volunteers should be encouraged to take part in the activities of the facility. ("Nursing Homes and Hostels with Care Services for the Elderly: Design Guidelines" page 13). The Environment should make every effort to promote the interaction and contact of the resident with; the outside world, staff, and among the residents themselves. ("Nursing Homes and Hostels with Care Services for the Elderly: Design Guidelines" page 8)

- Residents should not be limited by staff and the environment, but be presented with choices.

By encouraging the residents to make choices and decisions for themselves an environment full of energy and spontaneity is created. This is crucial due to the fact that many residents will be confined to a single environment. Variety and choice promote good functioning and alertness, particularly for those later in the onset, whose lives may become more routine. ("Nursing Homes and Hostels with Care Services for the Elderly: Design Guidelines" page 9)

An environment that presents the resident with risk is another way to ensure choice. By allowing the residents to take risks and rewarding them for doing so, residents can build a sense of pride and self-worth. In dementia care, the person should be congratulated and rewarded often for small and big successes. (Bell, Virginia M.S.W; “A Dignified Life: The Best Friends Approach to Alzheimer’s Care: A Guideline for Family Care Givers”, page 84)

- Staff and the environment must be honest and forthright with the residents.

Even if communication is impaired, residents may still be able to understand. Residents often remain very expressive emotionally and are capable of communicating their fears and wishes, even after their ability to use words is gone (Grollman, “When Someone You Love Has Alzheimer’s: A Caregiver’s Journey page 147). The outside environment should never hide information the resident has a right to know.
The environment should not actively try to deceive the resident by hiding or falsely identifying things. It is essential that dementia residents be presented with the full and complete story to avoid further confusion in the resident.

The environment and staff have a responsibility to keep the resident up dated on the condition of their disease. After diagnosis residents may be devastated, but when asked most people say they would want to know.

- Residents should be free from fear, and should be protected by staff and the environment.

Individuals with Alzheimer’s disease have an acute need to feel secure and safe from moment to moment (Bell; “A Dignified Life: The Best Friends Approach to Alzheimer’s Care: A Guideline for Family Care Givers”, page 194). Loss of ability from the disease, compounded with the notion of entering a group living situation, dementia residents can become afraid of losing their privacy and independence. Institutional living in the past has been characterized by regimentation, forced interaction and loss of choice. Fear of such settings has been compounded by historical stereotypes, where in such facilities have been seen as warehouses for those awaiting death (“Nursing Homes and Hostels with Care Services for the Elderly: Design Guidelines” page 13). It is essential that staff and the environment do everything to comfort and accommodate them. Residents must feel safe from threatening contacts with which they cannot cope (“Nursing Homes and Hostels with Care Services for the Elderly: Design Guidelines” page 9). Residents must be protected from elements of danger in the outside environment who seek to harm or prey on the dementia resident.

- Residents who wander must be provided with the ability from staff and the environment to move freely and return safely.

A large portion of residents will be inclined to wander. Staff and the environment must provide safe unobstructed circulation routes for wanderers. Along paths security must be provided that will ensure wanderers are not endangered or injured along their travel. It is inhuman to create a condition where a resident becomes trapped or stuck along the wall or in a corner. Due to increased confusion especially in late onset, it is important for wanderers to be returned safely to their starting point. Those inclined to wander must also have access to all areas allotted to the residents.

- Staff and the environment must convey a sense of privacy to the residents, and protect their personal space

It must never be forgotten that this space will be the resident’s home; others just visit or work there. Residents have the right to their own private territory, relationships, and possessions. Each resident must be able to establish a personal claim to some area within the facility (usually the bedroom), and must be able to exercise the right of privacy over it (“Nursing Homes and Hostels with Care Services for the Elderly: Design Guidelines” page 13). Privacy requires freedom from outside observation, noise, or physical intrusion without creating a sense of isolation withdrawal from the general community. Residents have the right to share their privacy with others. Visitors should be able to see their relatives in private places (Torrington; “Care Homes For Older People: A Briefing and Design Guide”, page. 31). Residents should be able to enjoy residential privacy and should not be hindered by staff or the environment in doing so.
The lack of privacy and independence, forced interaction with strangers, regimentation of activities and social isolation give rise to profound insecurity, feelings of abandonment and depression.

- Residents must be given the opportunity to stand-alone.

   It is important that residents be given the opportunity to use the physical and mental ability they still possess to carry on for as long as possible. Independence and self-direction is I to maintaining self-esteem, and is achieved by giving the resident autonomy. Even the relatively immobile can often be made to feel that they are making a useful social or practical contribution to life in the home (Aranyi; “Design Of Long-Term Care Facilities”, page.3). Individuals early in the disease are often able to fulfill many of their own needs. People with dementia can often still help with household chores, brush the dog, sort out a drawer, taste the soup, complete a drawing, and do other life-enhancing activities (Bell; “A Dignified Life: The Best Friends Approach to Alzheimer’s Care: A Guideline for Family Care Givers”, page 55).

- Residents must be assisted when they are unable to complete a task.

   Staff and the physical environment can either hinder or support the activities of the residents. A warm, inviting, receptive atmosphere should be created, which gives the residents the feeling that help is there when needed. Unsure balance, impaired senses, and slow reaction to potentially dangerous situations all create safety problems. Staff and the environment should compensate as far as possible for the residents’ vulnerability to these situations (Warren; “Housing Then Aged”, page 4). The building can magnify or minimize difficulties; a resident should not have to battle to open her bedroom door against a strong door closer. That energy could be used to take a turn around the garden.

- Residents must not be exploited, abused, or neglected by staff or the environment.

   Due to the disease, sufferers acquire a strong reliance on care providers. This reliance can entice less respectable staff and the careless designer to abuse their relationship with the resident. The confused and diminished state of Alzheimer’s may produce in the resident feelings of neglect. A well dressed, well turned out, and manicured, 90 year old lady sitting in a well furnished room with flattering light is not treated in the same way even by the professional care giver, as one who is shabby and un-kept sitting on a vinyl armchair with food stains on her clothing (Torrington; “Care Homes For Older People: A Briefing and Design Guide” page. 3). Residents are adults, and they should be treated as such.

- Staff and the environment must convey a residential feel. This is the space where residents live, and must be treated as their home.

   The feeling of “home” can manifest itself in many ways in the Alzheimer’s environment. There are miscellaneous domestic activities which residents may themselves want to carry out such as washing minor items of clothing, making tea, attending to plants, or pursuing some hobby (Aranyi; “Design Of Long-Term Care Facilities”, page 6). The decor of the facility must provide a residential feel for both the resident and their relatives that, does not separate them form familiar scenes (Aranyi; “Design Of Long-Term Care Facilities”, page 2).
A non-domestic environment can make a visit with the resident something to be endured rather than enjoyed (Torrington; “Care Homes For Older People: A Briefing and Design Guide” page 31).

- Staff and the environment must recognize that each resident is an individual and is unique

Residents should be shown respect as an individual and not have to be compelled to subscribe to the goals of the group (“Nursing Homes and Hostels with Care Services for the Elderly: Design Guidelines” page 13). Residents should be free to maintain their sense of identity by continuing previous socializing, dress, eating habits, communication, and activities (“Nursing Homes and Hostels with Care Services for the Elderly: Design Guidelines” page 13). The environment should enhance the image of the resident as an individual, with rights and self-direction.

- Residents have the right to be linked to the moment, both actual and perceived.

During the course of the disease, residents will at some time experience hallucinations and misperceptions. Staff and the environment must accommodate their perception while at the same time establish the current time frame. By acknowledging the perception of the resident, behavior can be affected for the better. An environment sensitive to the resident perception should not frustrate but comfort (Torrington; “Care Homes For Older People: A Briefing and Design Guide”, page. 19).

Due to the disease, resident may experience disturbed time tables, which alter sleeping and eating habits. The environment must recognize the disturbed time frame of the resident (Torrington; “Care Homes For Older People: A Briefing and Design Guide”, page. 17).

It is necessary for the resident to be able to keep track of time and relate to temporal changes (“Nursing Homes and Hostels with Care Services for the Elderly: Design Guidelines” page 9). As the disease ravages the memory of the resident it becomes essential that the environment provide the opportunity to reflect on the past. Reflection can provide a way of understanding and coping with the disease (“Nursing Homes and Hostels with Care Services for the Elderly: Design Guidelines” page 9).

- Residents have the right to be consulted, listened to, complain if need be, and have expressed feelings taken seriously

In all circumstances the interests of the residents are paramount. The residents must be able to speak to the manager or staff whenever they wish. The environment must make opportunities for residents to voice concern to staff. Confidential issues can and should be discussed with the resident concerning their health and well-being. Relatives may want to make a complaint, and must be able to do so, the environment must allow for it.
qualities:

The previous sections of this manual aimed to familiarize the designer with the intentions of the manual, and provide a better understanding of Alzheimer’s disease and the rights of the resident. This section, and the information which follows aims to explore how space can be created and manipulated to benefit and dignify the resident. Ideas and information in this section, for organizational purposes, fall under the umbrella of “Qualities”. Qualities are the specific portions of this space which have been identified as having great potential to impact the behaviour and well being of the resident. The individual qualities this manual focuses on are the following;

a: Space, Principles such as size, perspective, and scale which inform the space as a whole entity.
b: Planes, Creation of initial enclosure with walls, ceiling, and floors plans.
c: Lines, The creations of joints, trim, and seams.
d: Structure, Elements such as columns and beams which support and give validity.
e: Portals, Doors, windows, and other transitions.
f: Objects, Personal affects, furniture, and essential items.
g: Inspired: Art work, icons, sculpture and other personal imprints.
h: Ambient: Introduction of light, temperature, color and sound to the environment.
i: Systems, Life safety systems and alarms and their impact on the space.

Qualities have been organized in a manner much like “A Pattern Language” by Christopher Alexander. “A Pattern Language” presents the information in a global manner and works down to the local level. The material in the manual is presented first with the notion of the space, and then moves to more specific elements like objects and systems. This method is also intended to mirror the literal creation of space, Planes are created, the space is in habited, and systems support activity. This layering of information from the top down will allow the designer to quickly apply their own opinions, interpretations, and intentions to the design. This allows for a more vernacular and regionally sensitive response. It also brings to light universal ideas which can be applied to specific portions of the space.
space:

Space is the first set of issues addressed in the manual. Proper articulation of space is critical to the success of the Alzheimer’s space. These issues must be addressed and satisfied before other more specific issues can be laid out.

Access to all aspects of the space inside and out is essential if choice is to have any meaning for the individual resident. Residents must have access to all shared residential and living spaces in the facility. Space must minimizing restrictions and obstacles which could impede access.

The daily running of the facility by staff (maintenance, meal preparation, laundry services, etc.) may produce conditions that are hazardous to the resident. Access to rooms containing drugs and clinical supplies, kitchens, laundries, and other mechanical and service rooms must be restricted. The environment should be designed to effectively control access to these areas. A sensitive design should allow the residents to move freely, and allow the staff to carry out their duties without further stress or strain.

The space should establish secure enclosure that will protect the residents from all harmful elements. A secure enclosure will allow the staff and resident to take precaution against intruders that seek to harm. Enclosure must also protect the resident from exterior elements, such as the sun, wind, and rain. The sensitive skin of older Alzheimer’s residents is greatly affected by temperature; unnecessary exposure to harsh elements should be avoided (Warren, Guy; “Housing Then Aged”; page11). Allowing different levels of enclosure in the facility allows the residents choice of exposure.

Secure enclosure prevents residents leaving the facility and becoming lost. Alzheimer’s residents, especially those inclined to wander, may try to leave the facility and travel into unprotected environments. A secure enclosure will keep the wander in a safe and stable environment.

To avoid an environment that is stagnate and institutional, the space must offer freedom of choice. Multiple destinations, paths, and various seating conditions give the residents autonomy.

A variety of flexible space within the environment will ensure that residents will not spend their day stationary. Flexible space allows activities to change at will and provides freshness to the space. Communal areas can be adapted to a variety of functions, both planned and spontaneous for diverse groupings of residences. This notion may allow the residents to “go out” for a night but ultimately this will promote choice as to where and with whom the residents spend their time.

Keeping the space essentially the same, but changing the activity allows the resident to become familiarized with their environment. Residents can come to the same place for different purposes. A space where a multitude of functions can occur allows staff to manipulate the space to more accurately respond to care.

Visual performance is altered in a number of ways by Alzheimer’s disease. Sensitive consideration should be given to vision when designing successful Alzheimer’s environments. Good visibility and clear lines of sight inside the corridor is essential to way finding and identification. Clear lines of sight allow staff to monitor what is happening throughout the corridor in a discreet way.
The form the space possesses can greatly influence the behavior of residents. If space becomes plastic rather than stationary, different conditions are allowed to occur. These conditions can be formed around the corridor, giving the residents a place out of the hustle and bustle of direct circulation paths. This allows the space to open fully to circulation, but still maintaining a level of privacy. Form can be used to promote movement of residents through space. Flowing forms can entice residents to circulate along the corridor, where blunt abrupt forms might impose a pause in movement.

Linking different areas of the corridor can create a consistency and continuity in the space. Generally circulation should be linked to lobbies, communal, and public spaces. Linkage of space can also benefit wanderers by letting them move unimpeded through the corridor. Areas designed for less mobile residents can link up with longer more challenging walks for the active. The space should encourage many patterns of potential connections between spaces.

As Alzheimer’s disease progresses and senses dull, it becomes necessary that a smooth transition be provided between contrasting environments. Special consideration must be given to changes between light and dark, hot and cold, and public and private. Transition space will allow the resident to become acclimated to a new adjacent space without danger, disorientation, or fear.

Movement through the corridor should not be discouraging to the resident but sympathetic. In a space for Alzheimer’s residents, ease of mobility and length of travel are two criteria that must be satisfied. Around 40% of residents will be helped around by staff, either in walking or in wheelchairs (Torrington, Judith; “Care Homes For Older People: A Briefing and Design Guide” page 5). Due to the diversity of residents, the environment will have to accommodate varying traffic speeds and directions at entrances, exits, and areas where two or more activities meet. The corridor should minimize difficult maneuvering through space and around obstacles.

Due to decline in memory and motor skills associated with Alzheimer’s disease, circulation within the corridor should maintain short direct travel distances. The distance each resident has to move daily is far greater than they have been used to in the domestic house and is often seen as daunting. Wandering in the Alzheimer’s environment will be a common occurrence. A good range of safe wandering opportunities inside and out should be planned. Wandering paths are of more value if they have some point to them, with distractions and features on route.

Decreasing mobility limits the resident’s range of travel in a facility. Limited mobility will increase the amount of seated activity in the space. It is important that seating areas and pauses in circulation areas be sensitively addressed. A chance to pause will give the residents time to make decisions, adjust to new environments, and give them a much needed rest from circulation.

These pauses should be positioned at interesting places where things happen to entice residents to pause. Seating areas may be planned to take advantage of the daily activities generated by the space as well as the outside world. For someone who lives entirely in the present a constantly changing view for activity can be absorbing for long periods.
Pauses in the space can provide opportunities for casual social interaction. Sometimes it is nice simply to sit in a comfortable chair and watch the world go by, or to watch friends and family play a game or watch television.

In large spaces corridors can become a visual struggle for the residents. The longer the corridor becomes, the more perspective can become skewed in the distance, making the space disorienting. This altering of perspective can be intimidating to the resident and provide a level of uncertainty when objects in the distance are not clearly defined. Building detail and visual cues become weak and lost over great distances. It is important that perspective be addressed to aid in identification and ease the mind of the resident.

A person with dementia faces a shrinking world. The international banker now organizes his desk drawer once an hour. The gourmet cook can now only stir and taste the soup (Bell, Virginia M.S.W.; “A Dignified Life: The Best Friends Approach to Alzheimer’s Care: A Guideline for Family Care Givers”; page 213). The physical world that can be managed may be reduced to a site, a small surrounding area, or building. It is important that all external and internal elements relate to human scale. Variation in the scale, and character of corridors can avoid the creation of a clinical or institutional atmosphere.

It is essential that the size of the space accommodates both the needs of the resident and staff. Design failures of existing facilities include insufficient space for the staff to assist residents in movement. Corridors should permit two persons to pass one another easily using mobility aids.

The size and number of residents in the facility can greatly affect the level of care and overall atmosphere of home. As one would expect staff have a much closer personal contact with tenants in smaller schemes. Smaller social groupings seem to produce the best opportunity for interaction and enhance the individual resident’s sense of well-being.

The volume of the space may be manipulated to influence the atmosphere of the facility. Ceiling heights of large rooms, e.g. dining rooms, may need to be increased above the normal domestic height of the rest of the building in order to obtain satisfactory room proportions and to provide adequate natural lighting and ventilation. Care should be taken that increased heights for certain rooms are not continued unnecessarily into adjoining areas. Large open space is accommodating and is comfortable to visitors, staff, and residents.

The style the space possesses is key to the success of the facility. The style of the Alzheimer’s space should be both externally and internally “domestic” as befits its function. An institutional appearance is to be avoided at all costs. A premium should be placed on comfort, convenience, and safety of residents and care givers. An easily identifiable style will allow an order to be created, and the space can become a greater sum of individual elements.
There is evidence that confused and disoriented residents operate better when they know what is expected of them. Dining rooms should look like dining rooms, and bathrooms should look like bathrooms. This seems like stating the obvious, but often the requirements of communal living will produce spaces, which cannot be immediately recognized. Dining may take place in sitting rooms; bathrooms may contain objects, which look more like dentists chairs than baths. Style and character can be used as a tool to weave all the requirements of the facility and can become the theme which drives the entire design.

Time must be addressed in the spatial considerations of the Alzheimer’s corridor. The space should provide opportunities to reinforce the notion of time. Alzheimer’s residents may live essentially moment to moment, so they can be easily distracted and confused by their environment. By acknowledging time residents can feel comfortable and at home in the space. Late afternoon restlessness among residents, known as Sundowners syndrome, is well known in nursing homes. For most people this was once a busy time of day, with children to care for and meals to prepare and many residents still feel the call to action without clear idea of what is required” (Hampson, Amanda; “Take Me Home: Families living with Alzheimer’s”; page 190). At a deeper level, a person with dementia is living in a personal time warp and may be haunted by unhappy memories as the past becomes present. Addressing time may help to soothe the resident and put their mind at ease.

Individuals may have their own timetables which are at odds with the rest of the world. They may get up and dress in the middle of the night or want meals at times which may not suit staff. A facility with its own rigid agendas can shatter and spoil personal spatial relationships. This rigidness can act to create an environment which can become formal and impersonal. Designers must recognize this and establish a partnership with family and staff to avoid an institutional feel.
planes:

Planes act to define and give form to the space. Planes provide the face for the space with which the residents will use to identify and gain spatial cues. Planes such as the ceiling, floor, wall, and destination initially enclose the space and create boundaries giving character to the corridor.

The ceiling plane of the space possesses interesting potential for the designer. The resident is only provided with a visual link to the ceiling plane; it cannot be intruded upon. Residents must rely on their other senses to read this portion of space. Due to this limited accessibility there is opportunity for the ceiling to become playground for design.

The ceiling in the corridor may act to give the resident a relationship with the sky. The sky is a source of light and warmth, and its benefits can be brought to the interior. A relationship between the residents and the sky allows the resident to become familiar with the exterior, a necessity for someone confined to an interior space.

The ceiling plane has a responsibility to enforce enclosure and protect the resident from harsh exterior elements. The overhead plane should provide shade as well as protection from rain and wind.

Ceiling planes in the space may allow the designer to address the scale of the facility. A lowering of the ceiling may allow the resident to become intimate with the plane, creating a condition where the resident can almost touch it.

Residents may potentially use the ceiling plane to navigate through space. The ceiling can naturally bleed into other areas of importance, creating smooth movement through space and reinforcing entry.

The residents are at all times in direct contact with the floor, and are constantly supported by the plane. Floors and paths in the corridor should be well defined and possess no obstacles which could impede the resident. The floor plane must possess a surface that is smooth and easy for shuffling feet to navigate.

Floor surfaces should be resilient and durable. Flooring and carpets are at great risk of being stained by spills or incontinence which can make the space feel institutional. Floor surfaces should be non-slip, non-reflected, and non-static; this will help to further protect the resident by helping to prevent falls. Loose rugs and mats, which slip, or curl up at the edges are dangerous and must never be used.

Great changes in levels should be avoided to prevent accidents in the space. Stairs need to be eliminated as far as practical due to the potential for accident.

Floors and paths should be articulated to create smooth transitions to prevent falling and tripping. Due to increased sensory loss brought on by the disease, residents can become confused by the floor plane. Decreased perception can make changes in floor finish become confused with a step or level changes. Hard transitions may prevent the resident from moving into new zones due to fear of tripping and confusion. Different toned flooring makes the transition from interior to the exterior smoother, and less intimidating.

One of the primary functions of the floor plan is to efficiently move resident through space. Circulation paths can weave through the space allowing the eye to roam, and creating visual options.
The wall planes in the Alzheimer’s space are unique due to the fact that they are in direct contact with, and link the other planes (floor, ceiling, and destination). This allows the wall to become an element which promotes the overall organization of the space tying everything together. Due to this, residents will use the wall to derive the majority of environmental cues.

The wall plane in the corridor can act to define space; providing areas for special features to be introduced which appeal to the residents, making the space easily identifiable. The position and prominence of specific walls in the corridor can render them as a feature wall. Feature walls can be provided in the space as landmarks allowing the residents to recognize them, and locate themselves within the space.

The wall plane has the opportunity to become a place to display objects. The wall can highlight significant personal affects, or become a backdrop for various architectural elements. The wall may even be rendered to provide a rest for the eye when things become to exciting or confusing within the space.

The form of the wall plane can be designed to create movement, which might give the resident something to circulate along; making movement through the corridor smooth. A dynamic wall plane, which allows for movement, might aid the resident to turn the corner at the destination, break up the monotony of linear movement, mold the circulation, and force the resident to interact with it. A wall can give the resident a frame of reference and enforces linear progression. Walls introduced directly into the circulation path may give the resident a choice as to where to journey in the space. Walls can act as a datum line helping to lead the resident through the space.

The destination in the space will be the point in the corridor that the resident will strive to achieve. The journey to the destination may be long and arduous, so the destination must be special.

The destination will initially draw the eye of the resident as they move through space. From the destination, the eye of the resident may shift to other elements such as the ceiling, wall, and floor planes. The destination plane must be clearly articulated and easy to identify by the resident. The destination may even be looked upon as a landmark.

Due to the length of the corridor, the destination should be the “light at the end of the tunnel” for the resident. Figures at the end of the corridor may become vague and skewed, making them unidentifiable to those suffering from dementia. An overly dark and oppressive space can make the resident feel they are being lead to certain doom. A clearly defined destination may help to alleviate some confusion and help comfort the resident.

Although the resident has reached the end of the corridor, it may not necessarily be the end of the journey for the resident. Upon arriving at the destination the resident should be presented with options. Making the destination simply a dead end may be confusing and inhibiting to the resident.

The destination should take the opportunity to provide the resident with a place to sit. The long journey to a destination can be arduous and hard on the body. Lounges and sitting rooms at the end of a corridor can become a destination themselves. Seating arrangements give the residents reason to move towards the destination.
Corners in the space are a direct culmination of planes in the corridor. How this merger is articulated can be important to the success of the space. Corners can become dark and ambiguous, rendering them frightening to the residents. Reinforcing the corners can clear up confusion and make the resident comfortable in space.

Sharp corners must be avoided. Sharp corners should be softened to protect the residents, from injury while circulating through space. Corners can be accommodating and enforce movement through space taking on an active role in the corridor.
Stage Two,

Forgetfulness stage- Very mild cognitive decline in the early stages the person may become concerned or frustrated about memory lapses. They forget where they have put familiar objects and sometimes the names of close friends or relatives; if they voice concerns about this, others may reassure them it is common and nothing to worry about. Often no one else notices these minor memory lapses, since the person almost always performs normally in social or job settings and even in memory or cognitive tests. They will naturally compensate with lists and reminder notes to themselves. A partner may also help by reminding them of appointments or shopping items needed (Hampson, “Take Me Home” p.22-41).

lines:

Articulated lines in the space such as skirting, chair rails, handrails, trim work, cornices, and other linear elements can have a tremendous impact on the residents. Lines can take on the roll of reinforcement in the space by allowing the resident to visually interpret individual elements. Above all, lines must aim to establish clarity, scale, and definition.

Lines act as a datum along the wall to promote movement through space and direct traffic in various directions. The eye can be drawn to the line and then distributed to other areas of importance.

Lines in the Alzheimer’s space also act to highlight. Lines can become a marker for elements such as; the tops of windows, doors, and joinery. Trim can be used to enforce recesses or special conditions along the wall plane, making them easy to see. A line running the length of the corridor can help to break up the vertical nature of space and counter act a lengthy corridor. Lines can even divide space into zones which can become unique and individualized.

Handrails are a specific linear element of particular importance in the Alzheimer’s space. As visual acuity declines a greater emphasis is placed on other senses. Residents may use the handrail to cling to and feel their way through space. It is essential that the handrail be accessible to the resident.

The primary purpose of the handrail is to provide the residents with support and stability. Handrails will be in constant use in the corridor, and should be fashioned for ease of use and secure grip.

The space must be provided with handrails on both side of the corridor. Some resident will only be able to use one side of their body for support, so a handrail only on one side of the corridor will get them where their going but not back.

Breaks in handrails will inevitably occur at doors, but also at sitting areas in corridors or at windows. Areas of long breaks in the handrail should be avoided if possible.

Handrails should not be sited over unprotected hazards such as heaters, and should not lead people into something they might bump into (for instance a fire alarm panel with sharp edges mounted on the wall above the handrail.)

Any space for dementia residents must have things very firmly fixed to the walls. Anything which can be used as a handrail or grab rail will be used as such. Handrail heights specified in the building regulations may not be high enough; some residents are very active and could possibly climb over a meter high handrail into hazardous areas.
Stage Three,
Early confusional stage - mild cognitive decline: Family and friends begin to notice changes, which might include getting lost on the way to and from unfamiliar places, having problems at work including uncharacteristic arguments or leaving tasks unfinished at home. At this stage the person may have difficulty finding the right name for an object or a person. They may read but not remember or even understand much of what they have read. Losing important or valuable items including the car, and having difficulty concentrating are also common. The person may become aware that they are not coping with particular situations and may be worried about these changes but will often deny them and try to disguise obvious errors (Hampson, “Take Me Home” p.22-41).

structure:

Because exposed structure will occupy space, structural elements in the Alzheimer’s space should be considered by the designer. Repetition of columns, beams, arches, and structural frames will break the corridor into segments. These segments will provide pauses in activity, possibly allowing the resident to identify with a smaller piece of corridor rather than a complicated whole. Segments provided by structure can also be used to make a visual transition to the destination.

Structure can be used to reinforce spatial conditions in the corridor. Structural beams and columns can provide breaks in the space, disrupting the monotony giving it less of an institutional feel. Structure can reinforce by pulling away, as well as infilling.

Structural elements that break up the length of the corridor can act to create zones of different spatial conditions. Structure can become a physical barrier dividing the space into parts, forcing the resident to make an initial decision on which side to take. This also allows one side of the corridor to be used for circulation, leaving the other side for sitting or resting.

Structure can be used in the corridor to mark special conditions, and frame views in the space. A column placed adjacent to a special condition should continue to allow for easy identification of space.

Structure may have a psychological impact on the residents. Structure can be touched by the residents, establishing a connection between the occupant and the building. Columns, which express weight, might give the residents piece of mind. Structure that appears as if it will never fail, and is permanent. This might give the resident a sense of stability. Structural elements in the space which are massive in nature may address the scale of the space. Structure that is left exposed will tell a narrative. It might be beneficial for the residents to see the nuts and bolts of things. As Alzheimer’s takes hold, structure may not only bring order and stability to the space, but to the lives of the residents as well.
Stage Four.
Late confusional stag-moderate cognitive decline: Changes become obvious to family and friends. The person’s behavior is unusual enough to alarm family members and the process of diagnosis begins. By now cognitive problems are likely to be found if appropriate tests are conducted. The person may still cope with day-to-day tasks but concentration becomes a problem. Jobs may be started but never completed; dishes are abandoned in the sink; washed clothes are left moulding in the washing machine. A former Mr... Fix it may be bamboozled by a simple repair job. From now on travel has the potential to become a stressful experience for the sufferer-who may become very disorientated away from her familiar environment – as well as those travelling with them (Hampson, “Take Me Home” p.22-41).

portals:

Portals and entries will have a strong presence in the Alzheimer’s space. Portals segment the length of the circulation path into digestible pieces and zones for the residents to manage. Entries break up the institutional feel of the corridor allowing the notion of entry and progression through space. Portals, doors, and windows give validity to the space and give the resident a reason to occupy the corridor. Portals give meaning to the space and give the residents reason and purpose to occupy the space.

The door can become a powerful organizational element by marking entry to significant spaces such as the resident’s room, sitting areas, and common rooms. The door allows the corridor space to be closed off and utilized for private conversation with other residents or visitors.

In group living situations the number of doors the corridor contains becomes an issue. A great number of doors may provide confusion, and difficulty identifying individual space. Double loaded corridors must be avoided when possible. Conditions where doors occur on both sides of the corridor will produce a cluttered institutional feel, and do not readily allow for natural light and views to the exterior. The journey of the resident will not seem so arduous if the number of doors to navigate is minimal.

There are two main categories of doors in the Alzheimer’s corridor; doors belonging to the residents, and those utilized by the staff. It is important for safety and security to restrict access of the residents to staff and services areas. Staff and service doors should be easily distinguished from those of the residents. Doors leading to utility rooms, laundries, lift motor rooms, kitchen, and cleaners stores should be considerable low key and should always closed.

It will benefit the resident if the doors opened easily from either side. This might minimize the confusion of the resident by allowing them access even if they are trying to swing the door in the wrong direction. This could save residents from embarrassment and frustration of not being able to open the door. Whenever possible, however, doors should not open directly into circulation paths. This will protect those circulating along the wall from receiving an injuring blow. This is especially important when resident have a diminished sensory awareness and reaction time.

The selection of the door hardware is particularly important to the Alzheimer’s resident. Allowing residents to manipulate doors with little effort is the key aim. Traditional doorknobs may be difficult to negotiate by confused residents, therefore hindering access. Diminished motor skills will make it difficult for residents to open heavy and cumbersome doors. These doors should be avoided on main circulation routes, and doors primarily used by the resident. Wither or not the doors possess locks and keys should be considered. A locking mechanism with key might provide residents, early in the onset of Alzheimer’s, with a sense of security and privacy. The possession of a key might allow the resident to feel ownership of their room, and keep a sense of independence. This freedom could come with a price for the staff, which will have increase responsibility and have to keep keys of their own. The implementation of a spyglass or peephole to see out may be beneficial to the resident. Being able to see out of their rooms into the corridor space will give them a sense of protection and territory.

Doors and their frames in the Alzheimer’s space will be subjected to major damage form trolley, wheelchairs, and the residents themselves. Protecting the doors will keep the space in pristine condition, and maintain a residential feel.

Door should also allow for staff to assist residents through the doorway. It can be a daily frustration for staff if the doors are too narrow or if there is not enough room for a helper on each side of the resident.
Doors along the corridor may project a psychological affect into the space. Doors that are hard, cold, and heavy, have an institutional feel. A door that is residential in quality is essential to the success of the space. Some homes provide residents with individual “front” doors, which look like an external door with names, numbers, doorbells and sometimes photographs on them.

For doors in the corridor to be easily read, there must be contrast between the door and wall plane. Doors must pop out and act to engage the eye of the resident. The movement of the door in and out of the corridor space may allow the wall to become a frame of reference for the door, and makes it easily recognizable to the Alzheimer’s resident.

Thresholds in the environment can act as transition between the corridor and the rest of the space. Thresholds and path edging adjacent to the floor plane should be flush to avoid tripping. There should be no small holes or changes in level, which could catch walking sticks or frames. Thresholds help the transition from one realm of space to another.

Windows are an absolute essential in the Alzheimer’s space. Windows in the Alzheimer’s corridor have many responsibilities; provision of natural light, orientation, articulation of the relationship between the inside and outside, provision of views, and providing ventilation essential in care homes.

Wonderful views should be given to the residents to provide a link to the outside world. Views to the exterior provide cues to the surrounding environment for the resident. A glance of an adjacent property can give the resident a feeling that they’re a part of a greater community. What goes on in the inside of the space should be represented on the outside, and conversely, windows on the exterior façade may provide suggestions as to what goes on in the interior. Interior windows in the corridor may also have a double meaning to the resident. Interior windows can frame important internal views as well as reveal other internal spaces to the resident. This can create a mixing of spaces which smooths transition.

Window systems in the space should act to minimize glare and reflection. Unshaded windows at the ends of long corridors produce great amounts of glare and should be avoided. The introduction of daylight intermittently throughout a corridor encourages a sense of awareness in the resident.

Mullions can play an active role in the definition of windows. Mullions can act to break up the window plane into a reference grid for the residents to cue from. Thickened mullions may play with the scale of the building making the residents feel slightly smaller when near the window. A large mullion placed at the appropriate height in the window frame can act as a hand rail to support residents.

The frame of the window actively defines a boundary around the glazing. The frame should stand out to be easily seen by the residents. Window may even be recessed into the wall, giving it an implied spatial frame.

Windows can be utilized in space to mark significant areas. Items located underneath the window can be defined and highlighted. Windows can define space by taking the place of architectural elements such as corners of the wall, or a cornice between the wall and ceiling.
Skylights let natural light into the space as well as allow the space to ventilate bad odors and let fresh air in. Skylights and clearstories help to cool the space passively by allowing hot air to rise out of the space. High windows in the façade provide views from the space, but shelter views to the interior giving the residents privacy, while bathing the resident in light and warmth.

Windows should be designed for maximum safety and security of the residents. It is quite possible for residents to close a window onto their own fingers and leave it trapped, being unable to connect the pain with action. Prevention measures should also be implemented to protect against falling from windows.

Glazing should be positioned, where anyone sitting in an armchair can have a clear view through the window, and allowing the residents to sit in direct contact with the window and the corridor, mixing views with social activity.

Drapes blinds and other window treatments should be provided to screen windows from low sunlight and permit darkening of the room for activities, while maintaining the privacy of the residents. Various levels of light permeability can be introduced in a manner in which the residents can control, allowing for a vast array of options.
objects:

Objects in the corridor are especially important to those with Alzheimer’s, because they allow residents to directly interact with the environment. Residents can use, hold and manipulate objects to their benefit, and this can be very therapeutic. Interaction with objects allows residents to use the senses and skills they still possess. Objects must be accessible by all the residents, and whenever possible remain unfixed to the space.

Familiar everyday icons should try to make their way into the space to jog the memories of the resident. Simple everyday items in the space can work to provide cues and clues as to what occurs in the space. Tables can be set with dinnerware, ready for the residents to eat, giving clues of what is done in the space. Even simple objects such as a coat rack can be provided for the hanging of clothes, but on a deeper level may give the resident a personal feel, as if someone is staying for a visit.

The introduction of the “here and now” is helpful to the residents. The environment should take the opportunity to highlighting the time of day. The space may be filled with clocks, calendars, and pictograms much like a classroom. These icons should move and make sound to provide action in the space, which could stimulate the resident.

Getting mail provides residents with a sense of responsibility, and something to look forward to. Going to the mailbox might also provide a routine for the resident to follow, giving them a sense of time. Mailboxes in the space give the residents a reason to be in the corridor, and opportunity for the residents to pause in the space. Mail helps to tie the resident to the space. Getting mail makes them feel they actually live there, and also provides an opportunity for residents to meet and interact.

Everyone who moves into a new setting can benefit from being surrounded by their own belongings. Personal possessions can remind Alzheimer’s residents of whom they are, and used to be. Knitting, reading letters, looking at photographs and other possessions connect the resident to life. Many residents prefer the opportunity to bring some of their own; perhaps a favorite chair or familiar dressing table.

The success of enabling residents to bring personal possessions to the home is lost if there is not enough space for display. Displaying items places a tremendous significance on them. Seeing their cherished possessions can give the residents ownership within the home.

The life of the resident will be complicated by the need to carry things around. You cannot leave your knitting, book, crochet rug, and your handbag by your chair like you do at home, they all go with you. The route from the bedroom to the dayroom can be an obstacle course for an unsteady person on a walking frame hung about like a Christmas tree with possessions. Residents need to have access to all the storage options in their space.

Personal affects can have an impact even if the residents are unable to use them in the way intended. Even if books or news papers can no longer be read or are not used they still have an intellectual presence in the space. The color and shape of the personal affects provide the space with a decorative element and makes the space feel lived in. Personal affects also affect the visitors as well, making it easier to relate to, and care for the resident.
Furniture placed in the space can make the corridor much more than just a circulation path. Furniture has the ability to promote social groups within the space. It is important that sitting areas be designed so that chairs can be arranged in small groups around some point of interest. There should be enough space for those with declined physical abilities, and wheelchairs users to join a group, they shouldn't be segregated. Furniture should be placed at a point where one who is sitting can see any activity that occurs in the space; in a sense the resident can keep watch over their territory.

A variety of seating allows the furniture to appeal to the individuality of the resident. Making the furniture layout flexible gives the residents freedom to choose where they face or orient themselves in space. Seating should aim to satisfy the function of the space and enable its occupants to use and adapt it to their taste. The seating should not be fixed, allowing the space to become open to a variety of furniture arrangements. Rearranging of the furniture may bring freshness and change to the space, and may even make it read as a completely different room for the residents.

Contrasting styles of furniture might act to give the resident choice. A formal armchair and an informal sofa can create different options for the resident; they can sit in the style of chair which is right for them. Even if furniture possess different stylized qualities it is essential that the pieces work together to create a cohesive space.

The form the furniture takes can have an impact on the well being of the resident. Furniture should possess plush seats, cushioned backs, and padded armrests for the comfort of the resident. Chairs which contour to cradle the resident's body can accommodate long periods of rest. Many residents tend to lower themselves down using the arm rests and it is important that the seat does not slip backwards. The seat should possess a form which can allow the resident different reclining and sitting options.

Furniture and joinery in the space has the responsibility to provide obstacle free circulation. The space must not be overly cluttered with furniture, that could confuse the resident. Furniture in the space should be chosen for its durability and easy maintenance.

The nurse's desk or station is an essential element in the Alzheimer's corridor. The nurse's station should posses different levels of contact to provide access to those who are ambulatory and in wheelchairs. The station should be adjacent to circulation, keeping the residents in close proximity to staff incase they need assistance. Furniture placed near the nurse's station in the space may allow the staff and residents to interact socially.

Trolleys and carts will be a necessity in the space for the staff to carry out their responsibilities properly. Trolleys will constantly change location in the corridor. This may be confusing to the resident especially if the cart is parked in front of their door. When left in the corridor carts can appear as vehicles on a street and may enliven the corridor with activity. Trolleys utilize a lot of the space; the corridor must take this into consideration. The carts may even be utilized able to “sell” or distribute items such as fruit of flowers to appeal to the resident.
Reflections can have a tremendous impact on the space inhabited by dementia residents. Mirrors may be used in the space to stimulate and engage the resident. They can be a source of joy and wonderment to some residents, and confusion and aggression to others. Mirrors in the corridor will allow the resident to see themselves, but this has the potential to confuse. A mirror seems to engage, either because residents think someone is approaching them, or they may become fascinated by the strange in the reflection.
the inspired:

Elements in the corridor such as artwork, vegetation, and the household pet provide an inspirational and emotional quality to the space. The inspirational can allow the space to address the concerns and feelings the resident’s may be experiencing. Channeling emotions through inspirational elements can have a tremendous therapeutic benefit for the resident. The inspirational can take the resident away from the mundane and allow them to reflect on their lives and their place in the universe. These elements are the breathe life, and make the space worth living in.

The Arts can be utilized in the Alzheimer’s space to provide clues to unlock the environment. Art should take the initiative to say something about the space it is located in; giving the resident clues on the purpose of the space and letting them know exactly what is expected of them. Artwork can even establish a connection to the outside world.

Art should be sensitive to the resident and display a calming effect. Works that convey strong negative emotion might not be the best solution. Art should act to convey the thoughts and beliefs of the resident. Sculpture, painting, and music in the space can convey culture and heritage by displaying traditional values. Spiritual pieces shown in the space may comfort and ease the resident.

Art in the space can convey a personal feel, and makes the space feel more residential. Pieces can be a creative outlet for the residents, helping to relieve stress, utilizing remaining skills and senses. Painting, music, drawing, sculpting, and enjoying the arts fulfills a need for creative expression. Personal pieces may provide the staff with insight into what is happening in the head of the dementia resident, helping to increase the level of care.

Art in the space can be utilized to mark special conditions and features. Sculpture pieces become landmarks in the corridor, helping visitors identify the space. The optimum spot for art and personal pieces in the corridor may be located on the doors of the residents. Art, photos, or letters on the doors can help residents to identify their own space. Art will help both staff and residents to identify individual space. Photos on doors may also give the residents a sense of ownership and establishes territory. Depicting the life of the resident on their personal territory will not only have a profound affect on the resident but on staff and visitors. It might be painful for the family to reminisce about the past of their loved one; the environment must be sensitive to this. Seeing the residents in a younger state might motivate the staff, and encourage them to become more personal with the resident. They can be seen as a person with a history, not just a patient.

Plants and vegetation can provide a connection between the resident and nature. Organic materials provide life and growth in space. Plants in many ways can make decisions for themselves, and bring an element of change for the residents. Plants are living beings and must be cared for. Potentially the residents can be given the task of caring for plants when possible; this can give the resident a sense of responsibility and self worth. Well-groomed vegetation gives a health quality to the space, as well as a residential neighborhood quality.

Vegetation can be used in the corridor to address spatial issues. Plants can add scale and shape to the space and establish a rhythm. Tall vegetation can act to lower the ceiling plane counter acting the horizontality of space. Plant life in the corridor can be utilized to control light within the space. Organic covering can let varying amounts of light in, and still provide adequate shading from the harsh sun. Plants placed near windows and glazing may help to reduce glare, and break up harsh light.

Stage Six, Middle dementia stage- severe cognitive decline: Affected people can usually remembered their own names but depend on others for their day to day needs; some become incontinent at this stage. Personality or emotional changes are quite varied but may include delusion, agitation, aggression, or obsessive or repetitive behavior. The person rarely remembers recent events but probably has glimpses of memory from his own more distant past. Although they may forget the names of family members they generally recognize them as familiar people. Perhaps because they have completely lost their sense of self, they need to attach themselves to feel validated. A person at this stage may still go through a variety of different moods, perhaps seeming very distant and unaware of what is going on around them, becoming caught up in delusions but with the odd moment of lucidity. Out of the blue they may offer a surprisingly articulate insight or critique. Some sufferers seem to become quieter and more passive in this stage while others continue to be agitated (Hampson, “Take Me Home” p.22-41).
Wandering paths should be designed with vegetation along the way. Vegetation may also be allowed to encroach on circulation paths enticing the resident to circulate. Bushy lush vegetation along circulation might even go as far as helping to cushion a fall.

Vegetation has the ability to connect with the resident on a sensual level. Plants are great tactile objects for the residents to engage with. Residents are able to feel and manipulate the earth and soil when planting. Feeling of grass or dirt under their feet can be therapeutic. Red, orange, yellow, and white flowers can attract the curious resident, and are easily seen, smelled, and picked. The taste of fruit and vegetables through the growing season is of interest of everyone in the space. Plants to avoid include poisonous and harmful plants and those with sharp thorns or cutting edges. It is common for people with dementia to pick and eat both garden and indoor plants.

Time and place can be addressed in the space through the use of vegetation. The seasonal change vegetation undergoes can be symbolic of the change that occurs in Alzheimer’s disease. This symbolism can ground the resident, and allow them to experience the space on a more personal level. When leaves fall they give a sense of change in time and season, without becoming overpowering. Trees may be located in front of windows to shade in the summer, and allow views and sunlight in the winter.

The house hold pet can provide stimulation and energy into the space. Having the companionship of a pet can have a tremendous impact on the well being of Alzheimer’s resident. Unconditional love and reassurance is something that residents may lack due to the uncertainty of Alzheimer’s. Many nursing homes and hostels have dogs and cats roaming the halls, engaging residents.

A pet possesses many tactile qualities that can stimulate and engage the resident. Many people with dementia love to stroke a cat or pat the family dog. Petting of their fur has a therapeutic quality. A pet provides warmth while sitting on the resident lap. The space should actively try to attract wildlife to the space, bringing life, movement, and sensory stimulation to the space.
the ambient:

Residents depend on a whole range of perceptual information to tell them where they are. The view ahead is backed up by our peripheral vision, sound, smell, memory, and tactile information about the feel of the floor, temperature and air movement. Dementia residents may not get all this information so orientation becomes a much more difficult task.

Sensory stimulation is necessary to maintain the well being of the Alzheimer’s residents. Symptoms brought on by Alzheimer’s disease produce stress and emotional instability in the resident, and it is the responsibility of the space to provide an ambient environment that produces a place where residents can feel at ease. The environment should allow for a flexible mood that accommodate for quiet meditation or active social interaction.

The ambient environment should help to promote a residential feel. Simple things can be done to create a home like atmosphere which will make the resident feel at ease, or even evoke past memories. Whatever the strategy, a space which possesses a number of different sensory systems and experiences to augment the failing senses of the resident should be maintained

The ability to control temperature and sunlight penetration, particularly in bedrooms and sitting rooms is important to residents. Alzheimer’s resident’s especially older ones, are sensitive to dramatic temperature changes within the environment. The space must recognize that residents are more likely to complain of being too cold rather than too hot. Shade must be provided in this area for the protection of the residents.

The residential environment must provide safe sources of heat for residents to gather around, possibly creating social interaction. Fireplaces featured in the space could potentially ground the resident, giving them a familiar object to identify with, while provide warmth, visual stimulation, and wonderful smells in the space.

Space should be oriented to take advantage of natural breezes. To the Alzheimer’s resident there is a big difference between a breeze and wind. Windy conditions should be avoided, and shelters and breaks must be provided. Ventilation should not produce undesirable drafts especially in sitting areas.

Moving air has a dynamic tactile quality that can provide stimulation for the residents. A warm breeze from open windows and doors and air conditioning in the space interacts with the resident and can be felt on their skin.

Ventilation is crucial to the health and well being of the Alzheimer’s resident. A poor or incomplete understanding of incontinence can make a carefully furnished and beautifully decorated home seem like a Victorian workhouse; there is nothing so institutional as a smell.

Interpreting the meaning of sounds can become difficult for the resident. This is likely to affect every resident in the space to some degree. Cortical deafness related to Alzheimer’s disease causes loss of the ability to hear high frequency sounds but the capacity to hear loud noises is not affected. Hearing loss is at low sound levels, so while soft speech may be inaudible shouting is uncomfortable to the hearer, which is why people often say “there’s no need to shout, I’m not deaf” when a remark is repeated louder than before.

Noisy environments and poor communication skills can exacerbate strong emotions in the residents. An emphasis should be placed on magnifying high frequency sounds, minimizing background noise and aiming at a dead acoustic rather than long reverberation times.
Noise sources should be identified and kept as far away as possible from living and sleeping areas. Noise can come from the television, other residents, nurse call bells, tables being laid, the kitchen, heating systems, water pipes as well as the care assistant who is trying to communicate with a resident. Dementia may cause a person to be unable to sort all this out. Screening out background noises and paying attention to the matter at hand are abilities most of us take for granted, but those with Alzheimer’s disease may have trouble directing or sustaining their attention. A radio or t.v. in the next room may sound like strangers conversing in the house and can be frightening.

Large objects in room can cast acoustic shadows. Entertaining or social areas should posses no obstructions between direct sound sources and residents Elements such as solid walls and wall-to-wall carpets absorb noise sound and control sound between floors or privacy between rooms and corridors.

After noise has been properly controlled within the space, it may be beneficial to introduce stimulating sounds to the resident. Residents can reminisce when their favorite song is played, and some residents might find it easier to focus or relax. Soothing music has healing qualities and should be utilized. A good acoustic environment is a precious commodity for those suffering from dementia.

The overall aim of color should be to create a pleasant environment that supports the resident without garishness or glare.

The ability to distinguish between close hues especially blues and greens seem to deteriorate with age. The lens of the eye thickens and yellows so that color vision is affected. Colors in the red, orange, and yellow sector of the spectrum are easier to see and should be utilized. Subtle colors changes may not be as successful as contrasting color due to visual deterioration. Darker colors absorb light and may be unsuitable in large open areas. White or lighter colors are able to take shadows well and provide a nice contrast for materials and other colors.

Color and surface texture should aid in orientation and way finding in space. Long, confusing corridors particularly in a building where they all look the same can be mitigated by careful use of color, and color schemes. Contrasting colors can aid identification of doors, handrails, chan level or gradient, furniture, and other architectural elements. Color can also be used for identifying hazardous areas. Building elements can also be disguised if the need arises, by rendering them the same as the surrounding walls. This camouflage will discourage confused residents from using them especially is they lead to hazards.

Some dementia residents may react badly to sudden changes in color or finish. Dark geometric or striped patterns and contrasting color changes on the floor plane can be misinterpreted as steps or holes in the ground which some might refuse to walk over.

The materials used to compose the corridor seems to be just as important in creating a personal atmosphere as length of corridor or size of block. Use should be made of the many varied materials available to alleviate the failings of the resident. Care should be taken to avoid changes in material which may present a hazard or create an obstacle. Abrasive material should be avoided on walls along circulation routes to protect the skin of the resident.
Materials in the corridor will be subjected to the constant wear and tear of the residents and staff. It is essential to keep a well-maintained environment in order to sustain a residential attitude. Materials must be suitable for easy cleaning and sterilization. Durable materials must be implemented in high trafficked areas.

Materials may be beneficial to the resident in helping in identification and movement. The natural joints and seams in material such as brick and tile can be orientated to act as datum lines leading the resident down the corridor. Layers of materials on surfaces can give space a linear direction, and is inoffensive and reinforces movement.

Materiality has a strong impact on the attitude of the care environment. Concrete floors and paint reminiscent of a public lavatory conveys an extremely institutional look. The corridor must possess a materiality more organic in quality. Natural finishes such as stone and wood create a healthier, more home like environment. Even with limited resources, the staff and the design team can provide a much more sympathetic treatment.

The residents will be able to directly interact with the materiality of the environment (touch the bricks, feel the carpet, etc.). A highly tactile environment can compensate to some degree for reduced opportunity for social contact, to touch and be touched.

Materiality can to have a strong psychological impact on the resident. Solid material such as stone can have an implied permanence within the environment, giving the residents something to cling to. The notion that the space is not going anywhere and will be there for them can be important to the resident. Worn and weathered materials may also convey and reflect the age and physical deterioration of the resident. They might recognize this notion and sympathize with the building like a kindred spirit.

Some fabrics and papers are said to be irritating and distracting, particularly to confused residents. Realistic drawings of objects and highly patterned wallpaper can cause frustration and confusion. Dementia residents may attempt to pick “flowers” off the wall and find it irritating when they fail.

The quality of the lighting is of great importance to the resident; lighting levels should be high, but glare free. There can be a scattering of light within the eye of the resident which increases sensitivity to glare; muscles of the eye are slow to adjust, so going from a dark space to a light one can cause temporary blindness. There needs to be sufficient light in the corridor, particularly to draw attention to hazards such as changes in levels.

It has been observed that Dementia residents are attracted to light. The drawing effect light has on Alzheimer’s residents can be utilized to entice the resident to circulate through space. Overly dark circulation can be read by the resident as a bottomless pit or black hole. Detail is lost in is poorly lit spaces making it very difficult to gain orientation. The uncertainty of darkness can frighten residents, segregating them to a particular area. Variations in lighting levels between circulation spaces and destinations may help residents to orientate themselves and resolve confusion they might posses.

Intimate lighting conditions for residents to congregating around can promote the opportunity for social encounters. Lighting must flatter the resident, seeing oneself and others in a good light can build self-esteem.

Social and sitting areas will need increased light levels to accommodate for activity. It is essential that work areas and surfaces be provided with adequate glare free task lighting.
Lighting is an essential element in accident prevention in the corridor. Increased intensity of both natural and artificial lighting can be provided in order to compensate for reduced vision. Situations where people will be looking directly at a bright light, for example long dark corridor with an un-shaded window at the end should be avoided.

Residents will, and have the right to get out of bed at night and use the toilet at their leisure. Lighting should be provided for nighttime way finding, but should not intrude on the privacy of the other residents.

Shadows may initially seem daunting and intimidating, but will occur naturally with in the space. There is a great contrast between light and shadow, which can be used to articulate space. A darkened room can contrast with the light brought in from the exterior allowing shadow to define space. This notion allows the designer to use shadow as architectural elements to sculpt and carve out space.
One of the simplest ways of addressing issues in the space is the implementation of mechanical and electrical systems within the building. Systems are proactive, and become the first line of defense provided by the environment.

Systems in the corridor must allow for the subtle monitoring of residents by the staff. Electronic sensors and cameras will allow the staff to take a low profile approach to looking after residents, which helps to give to residents a better sense of autonomy. Non-intrusive methods should allow for daily and night time monitoring. Systems should be implemented which will allows the resident the opportunity to ask for help, rather than have help forced upon them.

People with dementia are at a greater risk from harm by their environment than the rest of the general population. Burns can be a particular problem for residents as they may not be able to associate pain with its cause. There is also a risk that a resident may fall against a heat source and be able to move away. Burns and scalding are in fact the most common cause of accidental death per annum in nursing homes. Design of the building systems must take this into account.

Alarm systems in the corridor by nature will stick out physically and visually in the space. Although it is important for security system to be seen. Too many visual systems can produce a very institutional space. Elements such as smoke alarms and intercoms, which are not visual specific, should be concealing when ever possible.

Fixtures in the space should aim to help in picking up the slack for memory loss in the resident. The loss of cognitive ability due to Alzheimer's disease makes it difficult for residents to learn to use unfamiliar artifacts. So called “specially designed” hardware for arthritic hands or other things previously inexperienced can become alien to the resident. This can result in restricted access and control over the environment. Fixtures that look like how the resident would expect them to look sets a precedence and gives them something to relate to.

All parts of the corridor, from faucets to doorknobs, which are handled by residents, should be designed for easy use and manipulation. Fixtures should require minimum dexterity and strength in the user. Fixtures in the space will take a lot of punishment and abuse from the residents.

Fixtures should be directly adjacent to their use, and be positioned for easy access for easy access by the resident. Switches should be provided in a sensitive location, to avoid fumbling and confusion in the dark. Switches and controls in the space should stand out and be legible.

Residents should possess direct control over their environment, and have access to all fixtures and fittings in their spaces. Switches, faucets, and hardware produce a reaction when operated, which allows the resident to directly interact with the environment. The ability for residents to control aspects of the environment such as temperature or lighting makes them master of their domain.

Taps and hot water regulation is another burning hazard in the Alzheimer’s environment. Regulating water can become close to impossible for someone with dementia. This can lead to a genuine fear of bathing and washing.
Signs, graphics, and other way finding techniques gives a direct indication of what is to come, and what is to be expected. This allows dementia residents in the space to articulate and orient themselves. Signs should be implemented to relate not only to residents but, staff and visitors as well. Too many signs in the corridor can give the space an institutional feel. Visual clutter can be reduced by coordinating signage at the design stage, helping to avoid a plethora of styles.

Formal language may be more appropriate for the resident, for example ‘ladies’ and ‘gentlemen’ on the toilet doors rather than ‘men’ and ‘women’ The use of symbols or logos may be beneficial to the residents and takes the place of language lost by Alzheimer’s disease. Direct signage like this might act to address and relieve symptoms of the disease such as incontinence, and wandering. Posters with reminders, names and phone numbers can increase the security of some Alzheimer’s residents.

Signs may be used to influence the behavior of a resident. Cues can be used to successfully create a calm relaxed environment. A woman whose husband had Alzheimer’s used signage in a creative way, “He kept going out the front door and she didn’t want him to, so she put a sign on it saying “ladies toilet”. He never went through the door again” (Hampson, Amanda; “Take Me Home: Families living with Alzheimer’s” page 201) This may not be the most “honest” solution, but it conveys the power signs have in the space.

Directional signage in the building must effectively display information to users and indicate the best route from a distinct point. Long hallway with lots of doors may be baffling to someone looking for a place to nap or use the bathroom. As the resident progresses through the corridor signage should become more specific and informative. Even individual items in the corridor may need further reinforcement.

Fire and emergency signage is essential in the Alzheimer’s environment. Emergency signage should be provided in key locations such as egresses and residential areas. Emergency signage should be visible at all times, (especially at night) and facilitate safe exit in case of fire. Emergency signage should be visible from all areas, but to maintain a residential environment. Emergency signage should not encroach on the privacy of the resident.
For the intentions and ideas previously presented to be successful, the manual must take the opportunity to step back and provide critical assessment of the work presented. Many critical decisions were made upfront and throughout the process of compiling this manual. These decisions, outlined in the introduction and layered throughout the manual, act to form an impression of the subject matter as well as create contextual framework for the manual. Critical analysis will allow the designer insight and afford them the opportunity to explore wither the information works. A subjective look back will provide better design and ultimately benefit the resident. The following reflections are by no means the only subjective points, but they are critical and need to be addressed.

The process undertaken in gathering the information was a grass-roots approach. This approach has many benefits, but also has some drawbacks. Since this process focused initially on a clinical understanding of Alzheimer’s and dementia, much less weight as given to case studies and previous precedence. Existing care facilities were studied, but in equal proportion to the study the resident and the disease. During this process it became difficult to find meaningful and substantial case studies. There are various reasons for this; constraints on the projects, the infancy of the field, etc., but little precedence had been set forth outside of the realm of facilities management. Exploring further case studies in a more extensive manner would benefit this body of work, but I feel that at this point it would only serve to support, rather than to bring to light new information.

The content of the manual is another topic which warrants discussion in this response section. This manual makes an attempt to address every aspect of the space. This has the potential to water down the information, and to some extent this is true in this work. For design of this space to be affected many aspects of the facility need to be explored. The bottom line is that there are many things in the space that will affect the resident such as regime, trolleys, other residents, etc. It is important for the designer to acknowledge these things, if sensitive design is to be achieved. Exploring each section further would make this manual much stronger. The scope of this manual is large enough to warrant an individual manual of each quality, but as a supplement to this initial work.

The overall organization and layout of this of the manual needs to be addressed. There is essentially two sections of information presented in this manual; Information specifically relating to the resident, and information relating to the space itself. On the surface the two sections are organized fundamentally different. The information in regards to the resident is presented in more of a “bill of rights” manner. This allows important and issues to be addressed and the elaborated upon. The spatial aspects of the manual are organized in a manner which layers the information. Mimicking in some instances the way the space will be constructed. This allows each section to stand alone, giving more flexibility to the reader. But, although both sections present the information well, the manual could be written in a manner mesh the two styles together.

Because care facilities are large in scope, and have great responsibility, they are in many ways complex. The bulk of this manual addresses the space in terms of intentions and ideas rather than technical data. Many bodies govern the design of the Alzheimer’s space from a technical stand point. It is the designer’s responsibility to subscribe to all applicable codes and specifications.
This manual presents the information as intentions and ideas to spark creativity and promote informed design. Technical information in terms of this manual hasn’t completely dropped off; many critical issues appear as appendix sections.

This manual takes the stance that the resident is paramount; thusly the manual is designed completely for the resident and their needs. However; there are many others who have a vested roll in the Alzheimer’s space. Caregivers and loved ones need to be addressed in the holistic design of the space. They provide emotional and physical support for the resident, and therefore the space must accommodate them. Placing the resident first for the purposes of this manual is adequate, but a larger scoped would include the needs of loved ones.

It must be understood that this manual is untested. Many of the ideas and concepts used in the manual have been gleamed from case and field studies, medical and nursing guides, and other manuals, but this body of work as a whole has not been tested. An appendix section has been included which attempts to provide a comprehensive solution. It is the intention of this manual to be used as a template for design, and it would greatly benefit the manual as it stands to be used in real time. Evaluating the design and incorporating what does and does not work in the real world would greatly benefit the manual and the resident.
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study model:

Now that the manual has been established it becomes necessary to physically explore and test the qualities that have been laid forth. This will allow for a critical evaluation of the manual as well as allow the designer a chance respond to, and process the information presented. By exploring the impact of the qualities of the manual we can further strengthen the manual and enhance its ability to support and dignify the resident.

The following photos depict a study model created in response to this manual:
adjacencies:

For the Alzheimer’s space to be effective it must support critical adjacencies. Understanding the context in which the space lies will allow the designer to link the environment to the larger community, allow the space to be served and supported, and allow the necessary care for the resident. The following appendix pages aim to identify specific areas needed for day to day operation of care facilities, and link them together in a comprehensive manner.
SITE:

Deciding where to build is often as important as deciding what to build.

Activity:
- Building should make the most of any activity taking place outside on the street. Sitting rooms and bedrooms and entrances should have a view of the outside world if at all possible, even if contrived; the service yard may be more interesting to residents than the back garden. (Torrington; “Care Homes For Older People: A Briefing and Design Guide” page. 23)

Psychological:
- The site should posses the quality of residential neighborhood
- Facilities should blend in so well with the community, it becomes hard to tell where it ends and the other buildings begins the greater layout of the hostels linked together in a series of pods.

Location:
- Near buildings which serve a general community purpose such as a school or library. In particular, homes should not be located with other facilities or services whose presence might seem to reflect the status of the residents (Aranyi; “Design Of Long-Term Care Facilities”, page.2)
- urban setting with public transportation

Provide:
- The site and pedestrian approaches to the site should be accessible to residents with mobility problems, including those who use walking aids or who are in wheelchairs. Level topography, minimized steps, level surfaces to encourage walking should be considered.
- The approaches must be free to any disability group such as the blind, the deaf, the wheelchairs-bound and those using walking aids. (“Nursing Homes and Hostels with Care Services for the Elderly: Design Guidelines” page 26) A resident should be able to transfer from an auto mobile to a wheelchair and move freely in that wheelchair, without assistance, from the parking (“Nursing Homes and Hostels with Care Services for the Elderly: Design Guidelines” page 26)
Entry:

Activity:
(Residents)
- Sitting and overlooking the entrance.
- Ease of direction finding
(Staff)
- Reception and discrete screening of visitors.
(Visitors)
- Reception and welcome
- Private conversation with managers or staff

Psychological requirements:
- Symbolic
- Warm welcoming and inviting
- Pleasant outlook
- Inviting appearance
- The area will be a great center of activity and therefore a focus of interest for some residents.
- Easily recognizable as the entrance
- Visitors get their first impression of the home
- Transition from outside to inside, noise, light, wind, temperature, etc.

Location:
- Easy access to car, taxi and ambulance parking
- Visitor toilets and cloaks space nearby
- Near space for private interviews and meetings

Provide:
- Entrance sheltered from the elements
- Clear signage
- The main entrance and lobby should be accessible to persons with mobility problems, including those who use walking aids or who are in wheelchairs (“Nursing Homes and Hostels with Care Services for the Elderly: Design Guidelines” page 26)
- Entry areas should be well-lit continuously to provide personal security (“Nursing Homes and Hostels with Care Services for the Elderly: Design Guidelines” page 27)
- Main entrances may require monitoring by staff or other persons. The entry should therefore be visible from an occupied area of the building (“Nursing Homes and Hostels with Care Services for the Elderly: Design Guidelines” page 27)
- Adequate sized doors free from obstructions and changes in levels
- Acoustics sound level 34-40 decibels provide good attenuation of outside noise
- At night the entry should be manned, or entry should be secured by provision of mechanical device to alert attendant personnel (“Nursing Homes and Hostels with Care Services for the Elderly: Design Guidelines” page 27)

Area:
- 18 sqm. min
NURSES STATION:

Activity:
- Centralized control
- Charting and communication
- 24 hour staffing
- Handover meeting at shift changes (Torrington; “Care Homes For Older People: A Briefing and Design Guide” page 64)
- Secure records storage
- Nurse call system monitoring.
- Note writing
- A degree of privacy from residents (Torrington; “Care Homes For Older People: A Briefing and Design Guide” page 64)

Psychological requirements:
- Should allow for ease of duties and supervision of residents.

Location:
- Offices should preferably be located within easy travel distance of residents areas
- Centralized location to all rooms
- Rooms should not be more than 36.5 m. from station

Provide:
- Nurses offices or duty stations should provide space for writing, charting, and communications systems (“Nursing Homes and Hostels with Care Services for the Elderly: Design Guidelines” page 39)
- Work space should permit a minimum number of two persons to work at seated positions
- Working surfaces in duty stations should be protected from casual observers and should be well lit (“Nursing Homes and Hostels with Care Services for the Elderly: Design Guidelines” page 39)
- Indicator board for call system and an intercom visible from nurses (Warren; “Housing Then Aged”, page 4)
- Station notice board, desk, chairs, cupboards, and legal files
- Clear view of main corridor (Warren; “Housing Then Aged”, page 4)
- Informal parts for visitors and residents
- Good but discrete visual supervision. day or night areas (Torrington; “Care Homes For Older People: A Briefing and Design Guide” page 64)

Area:
- Minimum of 2 linear meters of counter with access to both side and four feet by 400mm. deep chart rack
BEDROOMS:

Activity:
(Residents)
- Sleeping and resting
- Grooming
- Self-maintenance and exercising
- Socializing and communicating
- Recreation, hobbies and personal interests
(Care Staff)
- Space for nursing and bed making on each side of the bed
- Monitoring at night without disturbance or intrusion on their privacy

Psychological requirements:
- Room to reflect Resident's personality
- Room to convey personal territory.
- Rooms possibly furnished with resident's possessions.
- Interesting and entertaining views
- Security of possessions
- Atmosphere as domestic as possible with out inhibiting nursing care

Location:
- Route between bed-sitting rooms and dayrooms to be short and obstacle free
- Lounges near by for the use of the residents who wake at night (Torrington; “Care Homes For Older People: A Briefing and Design Guide”, page 41)
- En-Suite with Toilets and washing or shower facility where possible(Torrington; “Care Homes For Older People: A Briefing and Design Guide”, page 42)

Provide:
- Location of beds not less than 6100 mm from wall and other furniture on three sides
- Bed (divan or hospital type): Preferred Height,480 mm for Wheel chair users, 450 mm for mobile users, 680 mm for nursing access
- Cot sides (for use where there is risk of falling out of bed)
- Thermostatic mixer control
- Picture rail or alternative method of fixing pictures (Torrington; “Care Homes For Older People: A Briefing and Design Guide”, page 42)
- For residents with diminished physical abilities
- Access for nurse on both sides of the bed
- Adequate space for sitting out of bed
- Communication and media systems should permit the resident to use his or her own telephone, radio, and intercom system
- Emergency call systems should be available and accessible to all residents, regardless of disability
- Provision of space for residents' hobbies,
- Storage space should accommodate a full range of personal belongings, including clothing, toiletry items, etc. some storage space should be lockable for valuables. (Torrington; “Care Homes For Older People: A Briefing and Design Guide”, page 33)
- Arrangement of the bed and other furniture should be variable.
- All spaces, equipment and furnishings should be both accessible to and usable by the resident.
- Satisfy local fire codes regarding smoke and fuel contribution
- Small number of double rooms for couples or siblings (Torrington; “Care Homes For Older People: A Briefing and Design Guide”, page 42)
- Residents should have enough space to allow for individual functioning with a minimum of assistance and monitoring

Areas:
- Single occupant bedroom (excluding storage): 10.0sqm with a minimum dimension of 2.9m
- Bedroom closet storage: 3sqm, minimum dimension of 2.9m(Torrington; “Care Homes For Older People: A Briefing and Design Guide”, page 60)
SITTING AREAS:

Activities:
- Informal gatherings
- 24hr. use
- Individual sitting
- Activities to which the residents have been accustomed to e.g. social intercourse, reading, writing, watching television, knitting, sewing, other handicrafts, and games.

Psychological requirements:
- Encouraged interaction
- Flexible functions
- Should have a residential feel
- Lighting should be controlled independently
- Serves as a landmark

Location:
- Centralized to residents rooms
- Close to the designated functional space.
- Close proximity to toilets

Provide:
- Space should be planned for those who do not wish to watch television. (Aranyi; “Design Of Long-Term Care Facilities”, page 3)
- Sitting space for at least ten residents is desirable
- Areas should be able to accommodate those with diminished physical abilities.
- Comfortable, well lit, adequately furnished, and decorated.
- Spaces should be designed to have a view of passing or adjacent activity without impeding the general flow of circulation (“Nursing Homes and Hostels with Care Services for the Elderly: Design Guidelines” page 27)
- Minimum solar heat gain and glare, which can cause great discomfort. (Aranyi; “Design Of Long-Term Care Facilities”, page 6)
- Ventilation and the avoidance of cold areas or drafts

Area:
- 13-18 sqm. excluding any sitting space in the entrance hall.
TOILETS:

Activity:
- Residents will be taken to this area on a regular basis by the care staff. This is a time-consuming tedious routine, and maintaining the dignity and privacy of residents is essential. (Torrington; “Care Homes For Older People: A Briefing and Design Guide”, page 11)

Location:
- Toilets need to be adjacent to day and dining rooms.
- In close proximity to a Cleaner’s storage
- A Maximum of 12m distance from Bed and Sitting rooms (Torrington; “Care Homes For Older People: A Briefing and Design Guide”, page 11)
- Accessible to and from outside seating areas

Provide:
- Hygienic surfaces
- Convenient paper holders and grab bars
- Separate toilets for visitors and staff
- For use from partially physically handicapped persons
- Hot water delivered at maximum of 43C (Torrington; “Care Homes For Older People: A Briefing and Design Guide”, page 63)
- Covered pipes, with a maximum surfaces temperature of 43 C(Torrington; “Care Homes For Older People: A Briefing and Design Guide”, page 63)
- Cold, potable water
- Cisterns to internal toilets with overflows if necessary. (Torrington; “Care Homes For Older People: A Briefing and Design Guide”, page 64)
- Hand wash basin
- Adequate drainage
- Ventilation with a minimum three air changes per hour. Total area of at least 1/20th floor area and with some part of the ventilation opening at least 1.75m above the floor level (Torrington; “Care Homes For Older People: A Briefing and Design Guide”, page 64)
- Nurses pull cord adjacent to the toilet
- Room presence indicator
- Lever or cross top taps
- Mirror
- Hand dryer or towel dispenser and bin
- Space for helper on each side of some residents (at least around toilets in frequent uses)

Area:
- Group washrooms: 3.5sqm per toilet and basin with a minimum dimension of 3.0m (Torrington; “Care Homes For Older People: A Briefing and Design Guide”, page 60)
RESIDENTIAL AREAS:

Activities:
(Residents)
- Space for various functions
- Sitting
- Conversation
- Reading and writing
- Watching the world go by
- Drink and snacking.
- Games
- Arts and crafts (Torrington; “Care Homes For Older People: A Briefing and Design Guide”, page 53)
(Care staff)
- Visual supervision
- Resident Assistance
(Visitors)
- Conversation areas with reasonable privacy.

Psychological requirements:
- Casual and informal appearance
- Light spirited, non institutional
- Outside views (Torrington; “Care Homes For Older People: A Briefing and Design Guide”, page 53)

Location:
- Route for day areas to bed-sitting rooms and dining to be as short and as free from obstacle
- Toilets required with in close reach
- Access to secure outside space.
- Screened form kitchen and service areas.

Provide:
- Task specific equipment (Torrington; “Care Homes For Older People: A Briefing and Design Guide”, page 53)
- A Flexible furniture layout (whether furniture is provided by the home or not) in relation to circulation space, particularly for handicapped people.
- For the hanging of pictures and the placing of personal possessions (Warren; “Housing Then Aged”)
- Relief from noisy activities.
- A Small shop for sweets, cigarettes, toiletries, gifts cards etc.
- A Choice of sitting areas
- Interesting views
- Good access
- Storage for handbags, knitting and personal items
- Semi- private small conversational groupings if possible

Area:
- A minimum area for living and dining of 3 sq. m. per bed (Warren; “Housing Then Aged”, page 4)
EXTERIOR SPACE:

Activities:
- Socializing and gathering at any time the weather permits
- Sitting and observing
- Planting and gardening (Torrington; “Care Homes For Older People: A Briefing and Design Guide”, page 63)
- Should serve a variety of functions for residents, staff and visitors some not compatible with others

Psychological requirements:
- A pleasant space to enjoy the exterior environment (Torrington; “Care Homes For Older People: A Briefing and Design Guide”, page 63)
- Older residents benefit even more than the rest of the population from regular fresh air and exercise (Torrington; “Care Homes For Older People: A Briefing and Design Guide” page 97)
- Quite relaxing atmosphere

Location:
- Centrally located within the building
- Adjacent to the outside world (Torrington; “Care Homes For Older People: A Briefing and Design Guide”, page 63)
- Good access to toilets from sitting areas
- There will always be some residents who are unable to go out. Bedroom and dayroom windows can be the only link with the outside world, and views from them should be attractive and interesting
- Closely linked to the dayroom for such activities as, smoking, barbecuing and picnicking.

Provide:
- Continuously flowering plants
- Fruit trees
- Paths should be level and laid with gradients less than 1:30 where possible
- Frequent resting places with draft proof and rain proof seating are desirable
- Good lighting particularly at ground level
- Control of the micro-climate is important. Older people are susceptible to cold and heat.
- The ideal garden faces south-west towards the afternoon sun, half enclosed by building with wind break planting at the site perimeter.
- A wandering route around the garden to include long or shorter routes. The route should not be marked by interesting diversions such as: sitting spaces, rose gardens, safe water features, bird tables or animal pens.
- Semi-private spaces for families and visitors should be provided
- Objects of attraction for children and young people make visiting more of a pleasure. These can range from a swing to a swimming pool.
- A securely fenced garden is normally required to prevent people with dementia from wandering off the site and getting lost
- 2/3 planting of deciduous plants and 1/3 evergreen

Area:
- An area between 58-61% of the total site (Torrington; “Care Homes For Older People: A Briefing and Design Guide”, page 63)
specific requirements:

Given the more global nature of the manual, it became necessary to provide an outlet for more specific information regarding the space. The following is a collection of requirements pulled from the qualities section. This information should be considered to facilitate maintenance and ease of use.

As far as possible the space itself should be built to local authority housing standards in which finishes and heights and dimensions should generally conform. This is especially significant in regards to the safety of the resident.

It is essential that fire and smoke safety devices should be located at all major location. Automatic door hold open devices should be installed on all fire and smoke doors to prevent residents from becoming trapped along circulation routes. (Torrington; “Care Homes For Older People: A Briefing and Design Guide”, page 36) This will insure that the residents will be ensured a safe and clear egress to a safe area.

SYSTEMS:
Heating systems must be safe with no unshielded flames or elements. Residents must not be allowed to get dangerously close to the heat source. (Warren; “Housing Then Aged”) A safe and sensible solution is to implement low temperature heat emitters with a maximum surface temperature of 42C. (Torrington; “Care Homes For Older People: A Briefing and Design Guide”, page 36)

SIGNAGE:
Sans serif typefaces is recommended for its legibility and clarity. Letters should be a minimum size of 20mm, large enough for residents to decipher them. Lowercase letters are more defined and therefore are easier to recognize than capitals. (Torrington; “Care Homes For Older People: A Briefing and Design Guide”)

TEMPERATURES:
Constant temperatures are required in the space with a recommended temperature of 23C The space must recognize that residents are more likely to complain of being too cold rather than too hot. (Torrington; “Care Homes For Older People: A Briefing and Design Guide”)

VENTILATION:
Accidental soiling needs to be dealt within a stated time objective of less than 20 minutes so stains and odors do not linger in the building fabric. Problem areas should be well ventilated and pleasant smells such as flowers, baking pies, or other memory stimulating odors should be introduced. Ventilation should be provided for all places of assembly invoking 10 persons or more. (*Nursing Homes and Hostels with Care Services for the Elderly: Design Guidelines* page 31)

ACOUSTICS:
A sound reduction index between rooms at 40 dB (loud speech can be heard faintly but not distinguished) and 50 dB (shouting can only be heard with difficulty) should be maintained. (Torrington; “Care Homes For Older People: A Briefing and Design Guide”)

LIGHTING:
The corridor should posses at least 30 sec of pedestrian movement between very dark and very light conditions to create a smooth visual transition between space (Torrington; “Care Homes For Older People: A Briefing and Design Guide”, page 15)

OBJECTS:
Dining chairs with seats should be 430mm from floor; and dining tables at 710mm from floor. (Warren; “Housing Then Aged”) Seats should be strong and stable. A kick space of at least 75mm behind the front edge of the chair seat will be needed for people to lower themselves into the seat. (Torrington; “Care Homes For Older People: A Briefing and Design Guide”, page 10)
simple things:  
the alzheimer’s space.  
appendix c specific requirements

doors:  
The Hardware should possess maximum height of 1100mm above floor. (Torrington; “Care Homes For Older People: A Briefing and Design Guide”, page 11) It can be a daily frustration for staff if the doors are too narrow or if there is not enough room for a helper on each side of the resident. (Torrington; “Care Homes For Older People: A Briefing and Design Guide”, page 18) To accommodate for assistance door should be 1000mm wide with a minimum width 900mm. (Torrington; “Care Homes For Older People: A Briefing and Design Guide”, page 49)

windows:  
Windows should be positioned, where anyone sitting in an armchair can have a clear view through the window. The height of the window-ledge should be no more than 600mm from the floor level.

handrails:  
Handrails should be contoured for the hand grasp of the resident. Suitable shaped handrails for easy, secure grip should be a minimum of 40mm clear from walls. (Warren; “Housing Then Aged”, page 12) Rails should preferably be at a height of 1200mm, 760mm for second rail where wheelchairs are in use (Warren; “Housing Then Aged”, page 12)

floor plane:  
If changes in level are unavoidable ramps will be required inside and outside the building. The gradient for ramps should be no more than 1 to 12. Advanced warning should be provided before abrupt level changes.

scale:  
The minimum nominal width of the corridor should be 1800mm clear. (Warren; “Housing Then Aged”)

A typical module might house 25 to35 persons depending on the level of care being offered (25 per housing unit) in a home of more than 50 places it is difficult to sustain a domestic atmosphere and considers that normally homes should not exceed this size (Aranyi; “Design Of Long-Term Care Facilities” page 3) In all solutions, social groupings of 10 to 15 persons seem to produce the best opportunity for social interaction and provides for enhancing the individual residents sense of well-being. (“Nursing Homes and Hostels with Care Services for the Elderly: Design Guidelines” page 2)

The distance each resident has to move daily is far greater than they have been used to in the domestic house and is often seen as daunting. Distance of no more than 40 meters should occur between critical destinations. (Torrington; “Care Homes For Older People: A Briefing and Design Guide”, page 8)

volume:  
Ceiling heights of large rooms, e.g. dining rooms, may need to be increased above the normal domestic height of the rest of the building in order to obtain satisfactory room proportions and to provide adequate natural lighting and ventilation.
Introduction to the DVR.

It is the aim of this introductory section to outline the work undertaken during my candidature for a Masters of Art (interior design). Not only will this section introduce the material produced, but it will address the processes that were undertaken through out the candidature.

Background:
When I started this candidature I knew little about design and caring for those with dementia and Alzheimer’s disease. Before the candidature was undertaken, I had completed an undergraduate bachelor’s degree in architecture (completed in the United States). I came to RMIT having the necessary design skills, but was looking for a way to apply my design ability in a sensitive and beneficial manner before I commenced my career. Through initial research and personal experience I became interested in applying the base knowledge I had to exploring design for Alzheimer’s and dementia residents.

Intentions:
It was my intention, for the benefit of me and other designers, to create a “Kit of Parts”, which allows for the production of sensitive articulate design for those living with Alzheimer’s disease. It was quickly established that work taken form of a “Kit of Parts” could be applied holistically and on an individual basis. For example, one can apply the information collected in the DVR to global space planning or simply applied to turning a door knob. The “Kit of Parts” also establishes a database from which the designer can draw from, and readily interpret. As with all design this subject matter is extremely subjective and individual. The way this information is presented allows the architect to bring their own personality to design and promotes regionalism, specific style, and different interpretations with the space.

Organization:
The candidature was carried out through the production of a series of projects, with one building off of the next. The conclusion of each project calls to the introduction of the next. Specifically the DVR presents the project under a subject heading, then elaborates on it. Each individual project explains what has been done, what has been learned, and alludes to the next project. This organization, much like links in a chain, is chronological in the way that each project was done directly after the other.

The digital medium:
Because the intention of the candidature was to create a “Kit of Parts” it was necessary to find an efficient and clear way to organize the material. Because the research was so extensive, and a number of projects were undertaken, the organizational format needed to accommodate a large volume of information. Storing this information digitally quickly jumped out as the appropriate choice. This allows the necessary information to be stored flexibly and the material to be shared quickly and efficiently.

A framework was also needed within the digital medium to organize the projects. A website style was selected to frame the individual chapters and projects. Each project was given a web style link which, when selected, opens pages of information. The user can browse through the information much like the internet, selecting the topics they are interested in, or precede chronologically. This creates greater flexibility and allows the viewer to become intimate with a large volume of information.

What was done:
Once a set of intentions and framework was established, a solid base understanding of what exactly Dementia and Alzheimer’s disease is, was needed. This foundation was created by clinical and technical exploration of Alzheimer’s disease and Dementia. This research manifested itself in the form of an extensive essay which outlines; how the disease is acquired, treated, and what the symptom are. This gave me the authority to interpret information and make critical design decisions. The essay was one of the most important steps taken, as it gave insight into the disease and most importantly made me comfortable with the subject matter.

Having established a solid informational base, it was important to interpret the information in a creative and artistic manner. After completion of the essay I allowed myself to set back and reflect on what had been done. I took this opportunity to create a response model which takes an emotional approach. It breaks away from the scientific and academic and allowed myself (and hopefully the viewer) to connect with the research. It was a necessary step come to terms with the research and thus opening up new channels of design.

The next step was to explore a series of streetscapes and urban corridors in Australia. Information brought to light in the essay pointed to environments which were familiar to the resident, and promote movement and interaction. Streetscapes
and urban corridors seemed to jump out as an appropriate model for this concept. During the initial research it became clear that focus needed to center on one specific portion of the space rather than the facility as a whole (due to the scope, time, and resource constraints of the project). The study of the street allowed me to shift the scope to a specific portion of the space, the corridor. This brought perspective and direction to the project and created a framework for the project. The exploration of the streetscapes also acted as a control group. It was an environment that already worked by bringing people into and holding them in the environment. It also allowed transition to themes like movement, pauses, and spatial relationships into an Alzheimer’s environment. It must also be stated that I was unfamiliar with Australian vernacular, and this was an opportunity for me to explore the Australian landscape.

The next logical step in the process was to introduce the built environment into the research. It was from here that I focused from the individual with Alzheimer’s and dementia, to the space they live and function in. It was critical at this stage in the candidature to explore what was done in past as well as current environments which are home to Alzheimer’s residents. This area of research takes on a two stage approach; an academic, and an organic. First I took on a more traditional academic approach, researching text and studying photos of previously documented case studies. This allowed me the opportunity to study exemplary facilities. It was also helpful to study already organized research. The second approach was to conduct actual field studies. In a grass roots effort, I literally got the phone book out and cold called age care facilities, and scheduled site visits. This allowed me organic first hand experience with care environments, and believe this was probably the most influential portion of my research. I was able to walk the halls, sit with residents, and spend time with care givers as they carry out daily routines. This organic approach allowed me insight and provided an emotional connection to the work.

Moving on, it was now appropriate interpret the research gathered. I took the opportunity to explore the environment in another creative and interpretive manner (much like the Alzheimer’s response model). I approached this model in the same manner in which I conducted my research, starting at a specific point and building upon it, to create a comprehensive whole. I started with the notion of space, and layered it adding on until it became a rich environment. This allowed me to analyze each aspect of the environment, and afforded me the opportunity to flip though space; much like stills of a movie. It became easy to analyze particular ideas such as; seating, vistas, pictures, and light and how they can be used to create space fit for the day to day life of Alzheimer’s residents. This interpretative model actually became a forum to work out issues for the next project, the manual.

Next, it became necessary to mold the pervious projects it into a useful interpretation of the research. This manifested itself into the manual. The manual allowed the intentions established in the beginning of the candidature to come to light, but producing a tangible product that can be used by the designer to interpret the Alzheimer’s space. The manual presents the information in terms of both the needs of the individual, and how the space can meet their needs. The manual is presented in spatial terms, by building the environment up from basic notions of the space, to specific services. This allows design to be produced from the ground up and encourages spatial issues to be tied back to the disease. The manual in many ways becomes the center piece of the candidature, but by design it can be seen as a piece in the context of the other projects produced.

The final project completed was a large scale model of an Alzheimer’s space. The ideas and principles outlined on the manual need a forum for interpretation, and physically sculpting the environment seemed to be the best solution. Ultimately the goal is to use this manual to design an actual space for the Alzheimer’s resident. But limited resources at this point in time warranted a response in model form. Using the frame work of the corridor, and the manual as a guideline the space as created layer by layer. Each quality of space was pulled out and applied to the environment. This allowed for all the elements to come together and let the model bring the candidature full circle, not only wrapping up the candidature but looking forward to what can be done for the Alzheimer’s resident.
Conclusion to the DVR

This concluding chapter takes the opportunity to reflect critically on what has been done, and its success within the context of the candidature. Each individual project presented in the DVR takes makes a critical reflection of itself, so this chapter aims to tackle larger global issues.

Organization:

Because of its roll as a "Kit of Parts" the DVR by natural is a stock pile of raw data. By organizing it the way it is, one can look at the project by themselves, or view the material as a whole. Each project is powerful enough to stand on its own, but they become strengthened in the presence of each other. This is how I wanted the research to be interpreted, and because it is used to further my knowledge and career it works to plan. When designing a facility I can go back to the DVR and pull out a project specifically or use it to go through the process. Personally I think it is very user friendly. One draw back to this layout is that there is no narrative that weaves all the projects together; it reads much like a time line rather than a comprehensive narrative. The introduction addresses the process, but further binding the projects could be provided.

Research proceeded in a manner in which each step builds from the next, and I have touched upon this in the outline of work. This allows the viewer to see what was done and how it affects the next step, so a logical chain of events is established. It was suggested that I explore "A Pattern Language", by Christopher Alexander. I have found many similarities between what Alexander has done and how my research is laid out. Although I did not use the exact formatting as Alexander, I did draw parallel to his style of presenting global issues then breaking them down. It must be stated that my background as an architect and a designer speaks to the process that was undertaken. It is my personal thumbprint on the work, and with it works or not it is the only course I know to take. It works on the level that, the final product is for my use. However I would like this to be at some point in time a tool for other designers. I think a review of this process by other designers would be beneficial.

Mood:

It is essential that mood or climate of the research and material be addressed. Since the work produced is for a Masters of Art, with a focus on interior design much of the research needed to be artistic and design oriented. Having a strong pragmatic base in the essay and case studies, it was important that the mood of the research reflect that of artistic and creative endeavor. By creating models and interpreting the data I could explore the subject matter and take advantage of the course. So much of what has been done for Alzheimer residents has been prescriptive, ie. Trying to define it, diagnose it, and treat it. I felt creative and interpretive solutions were warranted. Personally, I have particular interest in the areas of art, and music, and it felt comfortable to execute the research in this manner. However, there is room to take the creative aspect too far. Creative decisions must be backed with data, which I believe this candidature has. However, it would be beneficial to temper this manual and test the creative interpretations with further research. But with the time and resource constraints, this was not in the scope.

Scope:

Scope is probably the most difficult area of the research to address, and has had the most impact on the finalized DVR. The information unearthed, and needed to master dignity for the Alzheimer’s residence, was tremendous in volume. Scope and the size of the project was something myself and my supervisor had always been conscious of. Initially I had no idea where the research would take me. I had an initial goal in mind, and this is personified in the mission statement. But my inexperience with the subject matter accounts for the play in Scope.

The research was conducted much like a hike. A destination was presented and the journey was stated. Along the way obstacles were presented. And as the path branched, measures were taken to avoid pit falls, and ultimately reaching the goal. It is through this process that scope became a problem. It must be understood that this is not just one path the research took under my guidance, but there were endless paths the research could have taken. I don't know if other paths would have been more beneficial, but I am pleased with where the research has arrived.

It was suggested, and it may have been a better solution to simply focus on an individual portion of the research. This would have allowed for a specific item or notion to be explored. I could have taken a door knob, broken it down and see how it could be used to benefit the resident. But I think the best solution based on my intentions for the candidature, it was better to be a "jack of all trades." This is where I feel some of my research can be interpreted as week or watered down. I also feel that it was easier to transfer information from a larger space to a smaller one, rather than the other way around. This made the decision to focus on the corridor. It was a space small enough to here I could study it.
in the allotted constraints of the candidature, but large enough to transfer the principles of the DVR and manual to say a door knob.

It also must be understood that the project focused on accommodation of people in the early, ambulatory stages of the disease process. This allows the design to greatly benefit the resident, because they still have an awareness of their surroundings and can interact and be stimulated by their surroundings. Alzheimer’s is a devastating and incurable, so targeting those who can most benefit from the environment is critical. Scope required me to put on the back burner those with mild confusion and who are bedridden and focus on those who are ambulatory. But it would greatly change the outcome of the research if I focused on someone who is bedridden. Issues like wandering, and destination would completely drop off, and issues like touch, light, and interaction fundamentally change. This is a flaw in the subject matter as a whole. Eventually the residents will move into this stage, and there is no contingency for this in the research.

Approach:

As mentioned in the introduction I tried to take a more organic up approach to understanding design for dementia and Alzheimer’s resident. I acknowledge many approaches I took were unorthodox, but it is what I wanted to glean from my candidature, and I felt that it was the nature of the project format dictated. Because I felt that it was important mesh the knowledge of Alzheimer’s with my design background I needed to do what ever it took to become intimate with the subject.

The essay was a huge step in gaining the intimacy. I was able to but names to faces person, I knew what the resident was experiencing and both mentally and physical. Compiling the essay I felt like I was studying to become a doctor rather than a designer. It seemed like this portion was like paying my dues. Because the essay was so dry it needed emotion put to it. I needed to study people with the disease, and interpret what was going on emotionally. This is really how the Alzheimer’s model came about it was a strike back to the emotional back lash to a clinical text.

One of the more unorthodox procedures I undertook in the candidature was to explore the Street. This has drawn the most effort and criticism from out side observers. It seems that this portion is completely out of context for the topic of Alzheimer’s disease, but in my mind and in the context of the research it makes perfect sense. I think it would make sense to the outside observer of critic to place this portion of research after the case studies. Where after seeing how the street influences facility design, I picked up on this notion very quickly from allusions in the essay. I exploited the abilities the street scapes had in engaging the resident. The street scapes were even influential in helping select the corridor as the exemplary space. It must be stated that I was unfamiliar with Australia. As an overseas student it was important to understand the vernacular of the country. Visiting streets and urban corridors actively engaged me in the culture and style of the area, and ultimately allowed me to consider the importance of nationality to the DVR.

Also during the candidature I had the opportunity to speak to professionals within the field. My initial research consisted of interviews with designers and architects practicing design of age care facilities in Australia. This one on one time with designers was extremely valuable. The let me look at facilities and shared their philosophies. I also think meeting with caregivers, nurses and managers of care facilities also supported the designer interviews. I was even fortunate enough to meet with a facility manager, who was working with Brian Kidd, an exemplary designer in the realm of Care facility design. These interviews were great supplements for the other research, and the amount conducted was appropriate in proportion to the work produced I relied rather heavily on interviews and meeting with professionals on aged care, but more on a holistic level. I didn’t do much specific referencing and note taking. It was more important that this research establish a design climate and attitude of design rather filler for the bibliography.

Upon taking up the role of researcher, and through discussions with my senior supervisor, the importance of studying, case studies, and conducting site visits was identified as a must. Precedence greatly informed the candidature and rooted the project research back to classical methods. What I found from exploring case studies was that there was extremely little historic precedence. In many books Residents were patients, and strapped to chairs, this is unacceptable, and I found myself exploring what not to do. I felt that it was more prudent study the current rather than the pasts. It would have been nice to explore historic precedence but the rapidly changing nature of the Disease did not allow for it. The modern case studies greatly informed my research, but the sensitivity required to design for the Alzheimer’s resident warranted more.

Actually conducting field visits to Aged Care Facilities was the best resource I had. It was extremely powerful to meet the residents, talk and walk with them, and look them in the eyes. It would have been unacceptable not to do this portion of the research. Not only did I learn from the experience but it gave the whole candidature validity. I chose these particular facilities because of their proximity to me and their willingness to meet with me. The culture of care is extremely private and dignified, and I thank the staff very much for affording me the opportunity.

Looking forward:
I believe that what has been produced in this candidature is complete and valid. Through conducting the series of projects, mastery and command of the subject manner was shown in the context of this candidature. However this is by no means the final answer, or the end of research which can be done. Through out the process I have found that design for the Alzheimer's resident is still, in many ways is in its infancy, and is growing by leaps and bounds. Even now, scientists are exploring cures through stem cell research, family members are no longer as isolate by care for a loved one, and designers are exploring alternate care environments. As it stands, this research is extremely valuable to me, but that's not to say that in the future this information may be rendered obsolete (Can a cure be found?). But by establishing a "Kit of Parts" I am afforded a bank of knowledge to build upon. This candidature has made me a better designer and allowed me a great base in health care Architecture. Although the Alzheimer's resident is now shrouded in darkness there is hope.
Response To Legislation:

It was suggested in the initial review of candidature that I investigate legislation and existing mandate for design of the Alzheimer’s space. This suggestion aimed to add validity to the manual and the DVR by exploring specific governmental guidelines for design of the space. To carry out this exploration I found a copy of the "Aged Care Act of 1997 including 2004 amendments (Australian)" I used this as the primary focus of the exploration, but I also followed up with emails requesting information from the Alzheimer’s Association of both America and Australia. Unfortunately, only the American branch followed up with a response. I also explored the 2006 International Building Code (IBC) and the Americans with Disabilities Act (ADA).

What I quickly discovered was that there is very little legislation which specifically governs design for Alzheimer’s and dementia residents. What did exist was passed in the name of aged care and institutional organization. This, to me, has seemed to be the trend throughout the candidature. Most of the information presented in the manual and the DVR thus far has been transferred from Aged care and institutional facilities. Having researched the disease from a technical manner I was able to pull the critical information out to in form my research. So to directly answer the examiners question, it does benefit to explore similar facilities.

Moving back to the process of this exercise, I focused my attention on the bulk of the 1997 Aged Care Act. I must say that I found this piece of legislation all though more than adequate at what it is intended for, the allocation of financial support to providers and proposing sanctions and accreditation, it is virtually useless as a guide to building design. The only reference to design I could find was the call for inspections of facilities for accreditation. It was unclear (and undisclosed) what the guidelines for the inspections were (whether they were subjective or definite). Acquiring these guidelines may prove helpful, but they were omitted. Although the Act is extremely anaemic design wise, it does seem beneficial to age care as a global whole. It was interesting, and validating to see that the facility is important in terms of financial support, both in funding of existing facilities, and in getting grant money for ground up construction. There were also some helpful definitions of care which were able to provide clarity and food for thought.

In a further effort to track down legislation, I contacted the Alzheimer's Association of America as well as the Australian branch. A contact at the association explained that the role of legislation and mandate is look at as a tool to insure the well being of the individual, and support the facility monetarily. This shed light on why legislation, outside the real of the building code is mostly directed at care. This led me to explore how code applies to this research.

Since the Aged Care Act of 1997 left the visceral nuts and bolts of design to the architect, I also undertook a brief exploration of 2006 IBC and the ADA. Both are standard and respected in America and internationally. The incorporation and compliance of building codes are crucial to the success of the space. However codes are technical and speak to specific aspects of the space. They are pre-conceived and in many cases rigid, but they are necessary to produce sensitive design. It was my philosophy, and I mention this in the manual, that building codes are pre-existing and must be subscribed to, therefore it is much more prudent to address design of the Alzheimer’s space from a creative stand point. It was necessary to explore fundamental elements rather than simply regurgitating legislation and code. It has been my intention that the manual and the DVR produced in this candidature act in tandem with governmental regulations to produce exemplary design.

Even though no specific design was gleamed the legislation and codes explored acts as a tremendous reference in the "kit of parts". The request to further explore Legislation was warranted, and it broadened my general knowledge of the Alzheimer’s space.
Hearthstone at Choate Care Residence was founded in 1992 by Joan Hyde and John Zeisel. The mission of the group is “to create residential treatment environments where people with Alzheimer’s and related disorders can flourish.” The group has been operating for nine years and have developed seven residences. The residence at Choate was a renovation that utilized the foundation’s eight environment-behavior criteria to create a model design that can fulfill their mission. The eight environment-behavior criteria can be described in three main groups: boundary control, spatial characteristics, and ambient conditions.

**Exit controls** help provide safety to residents and notify caregivers of those coming and going.

**Walking paths** transform aimless wandering into an event, like walking. The paths can incorporate elements to provide destinations or a purpose to the trips.

**Personal places** provide residents the opportunity to be alone. These spaces can also be personalized, triggering positive memories and soothing moods.

**Social space**, especially differentiated common spaces, allow for stimulation and places of interest for residents.

**Healing gardens** are outdoor areas that provide residents with a connection to nature and a space that is different from the confinement sometimes felt inside.

Residentiality can be achieved through the use of environmental design elements like fireplaces, porches, furniture, etc. These elements can create positive, soothing moods to residents because of their familiarity.

**Independence** is important for individual residents and can be achieved through safety details such as non-slip surfaces and handrails. Residents can maintain a sense of pride when provided the chance to move about and make choices by themselves.

**Sensory comprehensibility** is the use of objects, patterns and colors that can enhance interest while providing familiarity that is soothing to residents.

The plan below shows some specific uses of these eight criteria in the layout of this facility. Design elements such as fireplaces, furniture, photographs decorating hallways, centrally located gathering spaces as well as personal spaces can create a safe, recognizable environment for the care of residents. Special features like gardens and porches provide places where residents can live in the moment and avoid anxiety. Differentiation of spaces and decoration provide residents with familiar objects and areas of interest.
This multi-story elder care facility, designed by Yaita and Associates, is located in Saitama, a suburb of Tokyo. The facility runs primarily east to west dividing the site in half, allowing for views to the north and south. Administration, dining, and bathing spaces further divide the exterior space into three unique garden spaces.

Circulation space is kept to a minimum, creating large interior spaces that are day lit and act as connections between the garden spaces, uniting the entire site. The public gathering spaces are calm relaxing spaces that utilize natural materials and soothing colors. Their direct connection to the outdoor gardens provide the residents with opportunities to interact with nature and offer alternative places to interact or to enjoy solitude.

The residents rooms are located along the north on the upper floors of the facility. Locating the residents rooms to the north allows for natural day lighting and provides the residents with calm, soothing views of the gardens and surrounding landscape. The windows were created using the Fibonacci series and emphasize privacy and security.