



Cross Generational Housing

Michael Keith

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Summaries.

Introduction

The research entities in this project have been designed to explore the chosen subject area that is cross generational housing.

Cross generational living is a traditional concept based upon the idea that the blending of families, in social living activities builds a community that enhances our understanding of one another. Cross generational homes provide a congenial environment for those who wish to connect and share with other generations on a daily basis.

Having opportunities for peer companionship helps eliminate feelings of loneliness and isolation.

I have outlined exploratory techniques I used, to gain a better understanding of cross generational housing, in the hope of being able to produce a concept fit for housing developments.

Brief

Context.

As we all enter another year of our lives, the dramatic societal shifts going on in the UK are pretty easy to discern. The politicians and pundits remind us almost daily. The dramatic rise in life expectancy, the growing cost of elder care, the increasing need for childcare, the frustrating lack of affordable housing, and the new disconnectedness are all producing unfamiliar challenges for families across the UK. But while the problems are easy to see, the solutions are not.

Scope.

My concept will approach the way we currently design and build housing developments. This will be divided into a series of thoroughly processed evaluations and responses to the way we currently live our daily lives whilst taking into account our current economy. My final outcome will be a housing concept tailored for cross-generational living, which could be implemented throughout a property development.

Aim.

In this project I will explore how people in the UK are currently living together and how cross generational housing could benefit our population growth. Focusing primarily on the benefits of communal cross generational housing developments, my design activity will analyse the boundaries between personal space, individual needs and how a change in the way we build our properties could benefit the UK as a whole.

Audience.

The UK housing market will affect us all at some point in our lives. Whether it is a lack of affordable housing, families out growing their property or unforeseen changes to a family unit, we will all be searching for a solution. By considering cross-generational housing, all of us could reap the rewards it brings. By changing the way we develop our properties and making them not only environmentally sustainable but socially sustainable too, we could all see the benefits.

Outcome.

I aim to suggest a concept where cross-generational housing could be seen as a more attractive alternative to the way we currently live. My direction will be aimed at new build property developments, as opposed to alternate extensions of already existing properties. I also intend to explore the benefits and practicalities of cross generational housing, and will take these factors into account when producing my final proposal.

Collaborators

United for All Ages



Stephen Burke

United for All Ages works with local and central government, health, housing associations, companies, third sector and community organisations. They tackle issues such as; building communities, reducing loneliness, caring for an ageing population and child care policies, by engaging communities and making the best use of resources available.

Their Role:

They advised and assisted me in homing the direction of the project area. They did this by providing me with a wealth of articles, information and statistics as well as offering to assist my research through the second phase of this project.

Anchor Group - Fontburn Court



John Cusack



Alma Jopling

John is the court manager at Fontburn residential court. He works for the Anchor group who have over 40 years worth of experience in providing residential care for our elderly.

Alma has been a resident of Fontburn for a number of years.

Their Role:

John granted me permission to visit Fontburn court where he also gave me a tour of the complex. He introduced me to the residents and provided me with vital information.

Alma welcomed me into her home and gave me her perspective of her residence. She also allowed me to document her property to aid my research.

Lynn Spark & Family

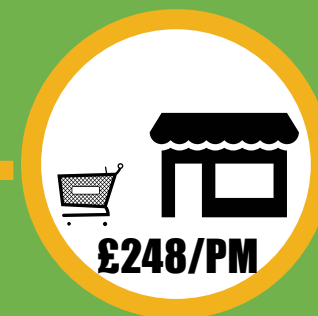
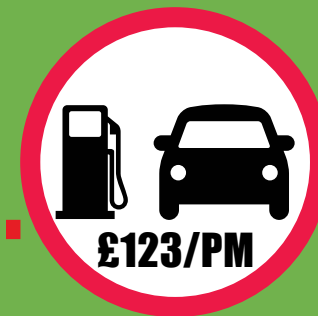
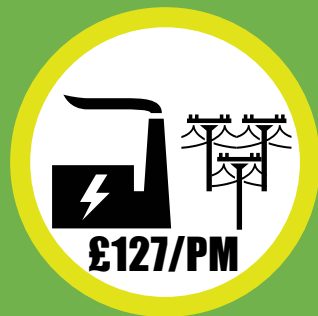


Lynn Spark

Lynn lives with her husband John, two children, Michael & Adam and mother, Evelyn. Lynn works part-time in retail whilst her husband works full time. Her mother, Evelyn, lives with them and helps takes care of their disabled son, Michael as well as maintaining the house.

Their Role:

The Spark family allowed me to spend the day with them, whilst they went about their 'normal day'. I documented their roles within the house and learnt an awful lot during my stay. I also collaborated with them and received feedback for a concept surrounding their own house alterations.



"It's clear that as a nation we love our independence and space, but many families are waking up to the benefits of sharing with other family members. Almost 20% of intergenerational living is due to families welcoming the older generation into their homes. With a rapidly ageing population, this is likely to become more common in the future..."

Louise Colley, head of protection sales and marketing, Aviva

Household Expenditure

The benefits of living together

A brief History:

Up until the 1950's, three sometimes four generations lived together multi-generational families. In prehistoric times these family groupings included all the living descendants in either the male or female line. Each family was practically self sufficient with men providing food, and women taking care of household duties, children, and elderly parents. The whole family had to cooperate in order to survive.

The industrial revolution caused significant changes in family life. People moved from farms to cities where new factories were being built. In the cities, people no longer worked together in extended family units. Men were required to travel to and from their jobs and had less time to spend with their families.

Joint families began to dissipate in favour of nuclear families consisting of married couples and their children. Multi-generational households began to decline, along with the expectation that children cared for elderly parents in their own homes. Subsequently, assisted living and skilled nursing facilities came into existence as new living arrangements to serve the needs of the infirm elderly.



It makes sense...



People in the UK are living longer these days than ever before. According to data from the Department of Health and Human Services, our average life expectancy is now 77 years, the French are at 79, and the Japanese 81.

Who's taking care of the kids?

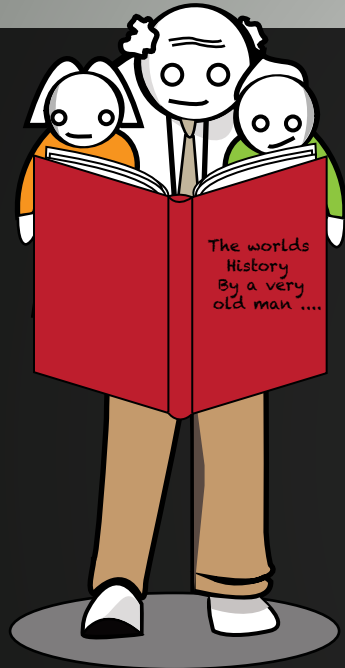


Many women, the traditional care givers, are now working. 1 in 5 children ages 6 to 12 are regularly left without adult supervision after school and before their parents come home from work.

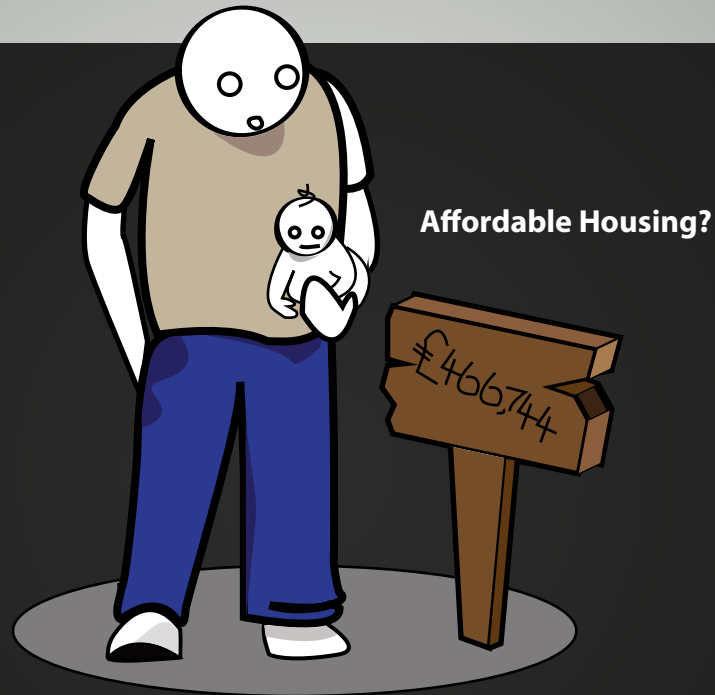


Not only do grandparents help out with child care by baby sitting but more and more siblings are starting to help each other out too.

It makes sense...



A Grand parents role can serve as a symbol of continuity and stability in family rituals and values. More over, grandparents can give grand children an appreciation of the past and a sense of history with their stories.



More than two million people find their rent or mortgage a constant struggle or are falling behind with payments.



We spend the beginning of our lives surrounded by family. Why the spend the ending alone?

The Covers housing development

Bellway

Welcome to The Covers

development of 3 & 4 bedroom contemporary homes

The Covers



Address:

The Covers, Swalwell, Newcastle Upon Tyne, Tyne And Wear, NE16 3DB

Developer:

Bellway

About:

The Covers is situated on the outskirts of Wallsend town. The development consists of a range of 3 and 4 bedroom detached and semi-detached properties. Price ranges for this development start from £179,950 - £280,000.

Close to local amenities; The Covers is conveniently situated near supermarkets, local convenience stores, leisure centres and schools from primary, secondary and college.

- | | | |
|--|--|--|
| ■ The Belsay 2
4 bedroom detached home
plots 10, 13, 30, 31, 45, 47, 48 & 52 | ■ The Salisbury
3 bedroom semi-detached and detached home
plots 18, 19, 53, 54, 76 & 77 | ■ The Wedmore
4 bedroom detached home
plots 2, 43 & 49 |
| ■ The Brampton 2
3 bedroom semi-detached and detached home
plots 6, 9, 11, 14, 15, 16, 17, 21, 22, 32, 33, 39, 42, 46, 50 & 51 | ■ The Sandhurst 2
3 bedroom semi-detached and detached home
plots 26, 27, 56 & 57 | ■ The Weston
4 bedroom detached home
plots 3, 12, 36 & 38 |
| ■ The Brentwood 2
4 bedroom detached home
plots 23, 24 & 41 | ■ The Somerton 2
3 bedroom detached home
plots 1, 25, 29 & 55 | ■ Affordable housing |
| ■ The Eastleigh
3 bedroom semi-detached home
plots 34 & 35 | ■ The Strand 2
4 bedroom detached home
plots 28 & 44 | ■ The Kingston 3
3 bedroom semi-detached home
plots 74, 75, 78 & 79 |
| | | ■ The Kirby
4 bedroom detached home
plots 20, 37 & 40 |

The Covers, 3 Bed Development

This development is a 3 bed detached house on sale from £179,995.



Upon entry you are met by the stairs leading up to the first floor. This part of the entrance-way is rather crowded.

To the right a door leads to the open plan kitchen and living room. The area is well lit and fairly spacious.



The kitchen is adequately sized but again, like the other properties, there isn't much usable counter space for food preparation.

The Covers, 3 Bed Development

This is the living room which is connected in situ to the kitchen. This space seemed fairly smaller than the actual kitchen.



Next to the kitchen, there was also a downstairs toilet. I thought this was a particularly odd place to have a toilet, given the environment.

On the first floor, a small landing provides access to the bedrooms and family bathroom.



The family bathroom is again of a relatively small size. The small opaque window lets little light through which increases the claustrophobic feel of the room.

The Covers, 3 Bed Development

The master bedroom is the largest of the three. With a Juliette balcony, you can open the doors which creates a sense of having the outside, inside.



The en-suite for the master bedroom contains a stand-in shower and is tiled from floor to ceiling. This makes the space feel a lot taller than it actually is.

This bedroom was adequate in size, and the large window made the space feel a lot more open.



This was the smallest of bedrooms but in general it was of an adequate size. The vibrant decor created an atmosphere and made the environment feel warmer.

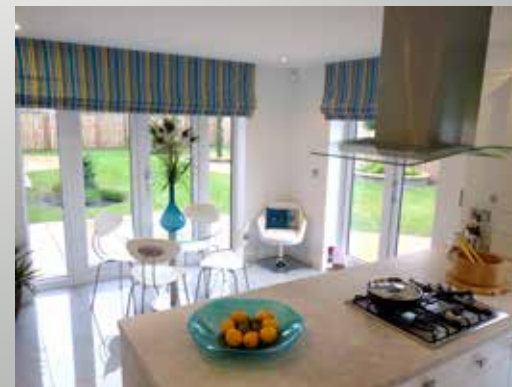
The Covers, 4 Bed Development

This development is a 4 bed detached house on sale from £269,995.



The hallway of this property felt really large and open. This was mostly to do with the gloss styled floor tiles and the neutral colour schemes.

The kitchen was of a relatively adequate size, although there wasn't particularly very much counter space for food preparation.



Large floor to ceiling windows helped make the kitchen seem a lot larger than it actually was. Light flooded through them to help set an atmosphere.

The Covers, 4 Bed Development

Through the kitchen and into the living room; the space in this area, again, wasn't particularly large. However another large patio door helped make the space feel larger than it actually was.



Upstairs and into the master bedroom; I noticed quite a nice feature of transforming the entrance into a walk-in wardrobe. By placing all the storage at this end of the room, the actual bedroom space feels a lot more open.

The use of another floor to ceiling windows 'opens' the space up a lot more. Together with the placement of the cupboards this room felt a lot larger than it actually was.



In comparison with the master bedroom, this room, was of a similar size. But from the image and my documentation of experiencing the two spaces, I can confirm that this room felt a lot more claustrophobic. This is mainly to do with the use of a standard sized window.

The Covers, 4 Bed Development

This bedroom was incredibly small. To the extent that in the showroom there was a sofa bed as opposed to a full size bed.



The family bathroom was of a good size and maintained a high level of aesthetic finish.

The final bed room I viewed was of a fairly comfortable size. This bedroom also had an en-suite.



The en-suite to the last viewed bedroom continued a high level of finish. There was enough room to comfortably move around. The shower cubicle installed was also spacious.

The Covers Development

Review

I was really impressed with the quality of build and finish of this particular four bedroom house.

As documented, the house maintained a consistent level of high quality appeal, therefore it is not difficult to see why this particular offer from Bellway would be tempting to an new development buyer.

On the other hand the over-all feel of the property was that it was particular small in places. I would also struggle to see the final, smallest room, being used as a practical bedroom.



Ministry II Housing Development

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Ministry II

**The Flatford**

3 bedroom mews home
Plots 3, 4, 8, 9, 41-45

**The Hamford**

3 bedroom detached home
Plots 5, 11-13, 32, 33, 40

**The Siesta**

3 bedroom detached home
Plots 30, 31

**The Kemsford**

4 bedroom detached home
Plots 6, 7, 10, 19, 22, 23, 25, 29,
34-36, 39, 46, 47, 55

**The Kirkham**

4 bedroom detached home
Plots 1, 14, 16, 17, 20, 27, 48, 49

**The Tunstall**

4 bedroom detached home
Plots 2, 15, 18, 21, 24, 26, 28, 50

**Affordable Bungalows**

Plots 37, 38, 51-54



Bin Storage Area

Address:

The Ministry II, Benton Park Road, Newcastle, Tyne
And Wear, NE7 7Nf

Developer:

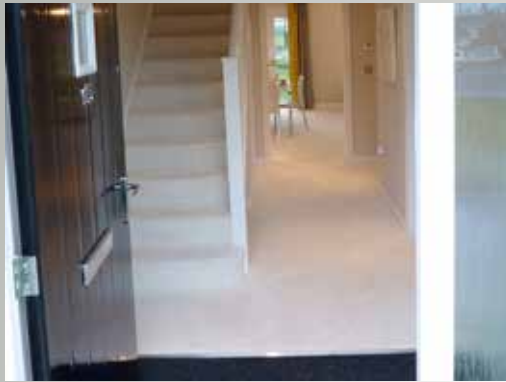
Taylor Wimpy

About:

The Ministry II has a wide range of three bedroom mews and semi-detached homes, and also a selection of three and four bedroom detached designs which have been made to suit any lifestyle. They are tailored for first time buyers, families and investors alike. Price ranges for this development start from £251,995 - £279,995.

The local area offers amenities such as supermarkets, convenience stores, pubs, cafes and restaurants, as well as post office services and local schools. Positioned for commuters, with direct travel routes such as; the Tyne Tunnel, A19 and A1; Longbenton and four lane ends metro stations are both short walks from the development.

Ministry II, Development - 3 Bed



Ministry II, Development - 3 Bed



This 3 bed property was considerably larger than the 3 bed property at The Covers. As a result, the property is more expensive, however, the use of space and room proportions make this property a lot more attractive.

Ministry II, Development - 4 Bed



Ministry II, Development - 4 Bed



Similar to the 4 bed at the Covers, the standard of finishes and quality of build really showed with this property. In terms of space, this one in particular was balanced and proportioned.

The Ministry II Development

Review

The properties at the ministry in general seemed to be slightly larger than those of the Covers. This could be due to the decor, however, or the plan in which the rooms were laid out. As documented, the house still maintained a consistent level of high quality appeal.



Allen family collaboration

To gain a better understanding of human behaviour, I needed to look at how we use space on a daily basis and observe the trends between age gaps and a person's needs. Where it is impossible to determine exactly how each and every individual will use a space within their property, assumptions and trends can be justified by carrying out this type of research.



The Allen Family - Persona analysis



Name: Allen Family
Number of household generations: 2
Number of empty rooms: 1

I interviewed the Allen family asking them to document their use of the rooms within their three bedroom detached house. Each member of the family participated and the results are shown across the next few pages.

Mary Allen - Mary spends the majority of her time in the living/ dining room when she is not working. This is where the main television of the house is, so this space is primarily used for relaxing as well as dining. Her second most occupied space is her bedroom. Depending on her work shift patterns, this space is also primarily occupied for relaxing.

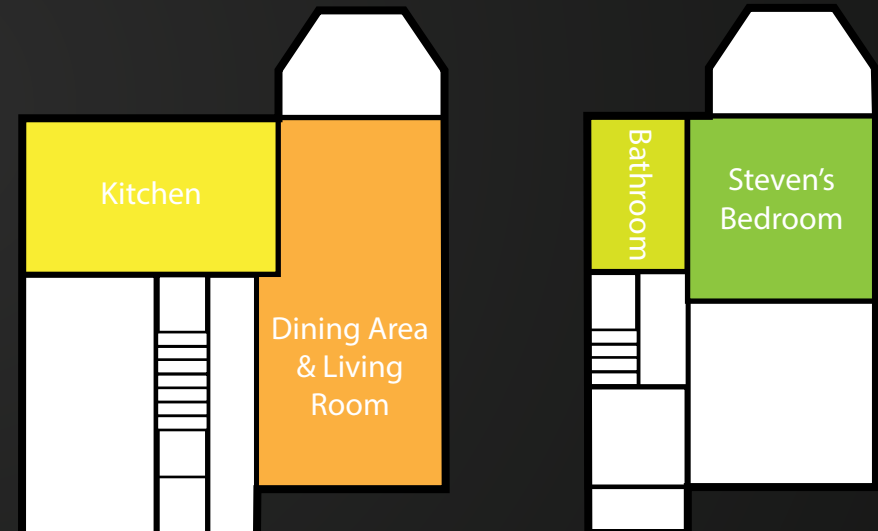
David Allen - David occupies the most amount of rooms on a regular basis. David is currently unemployed but his role in the family as a house husband means that he uses his space in a different way. As a whole the amount of time spent in the kitchen is the greatest. This is because he solely prepares and cooks all of the meals throughout the day for the other members of the property, as well as guests. He also uses the utility room daily for washing and ironing clothes.

Steven Allen - Steven uses the majority of his time inside his bedroom, when he's not out socialising or working. He also spends the greatest amount of time in the bathroom, bathing and grooming.

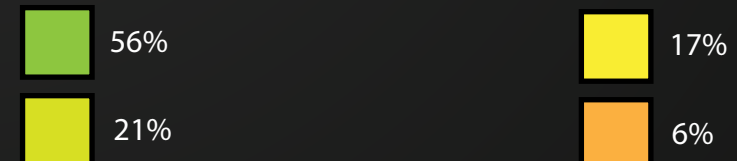


Name: Steven Allen
Age: 21
Occupation: Delivery Driver - Part Time
Number of household generations: 2

Steven was asked to document his use of space within the property he lived over the course of two weeks. His results are shown below in the two story floor plans representing the Allen household.



Time Spent:



Persona analysis

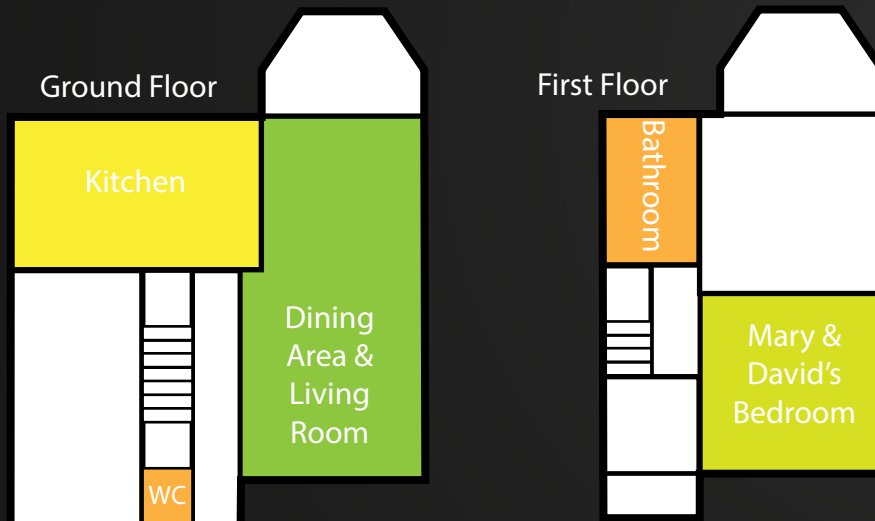


Name: Mary Allen

Age: 54

Occupation: Care Worker - Full Time

Mary was asked to document and map his use of space within the property he lived. Her results are shown below in the two story floor plans representing the Allen household.



Time Spent:

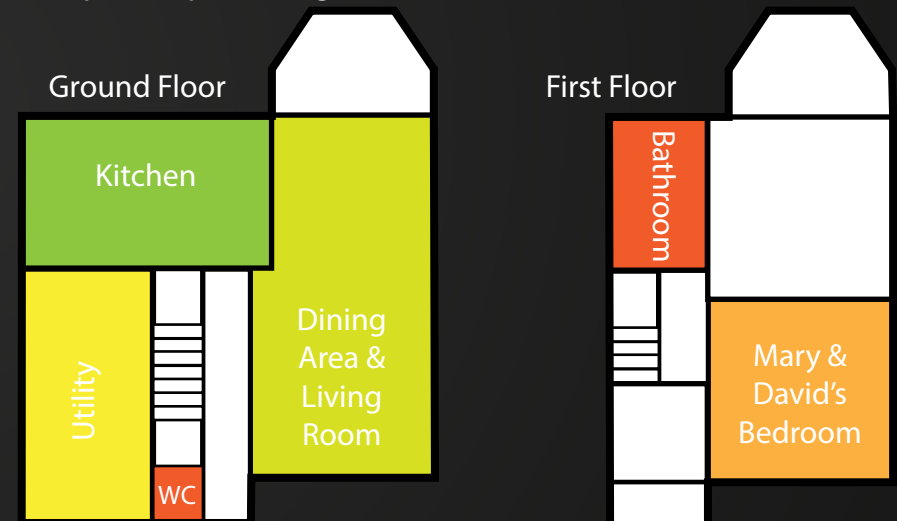


Name: David Allen

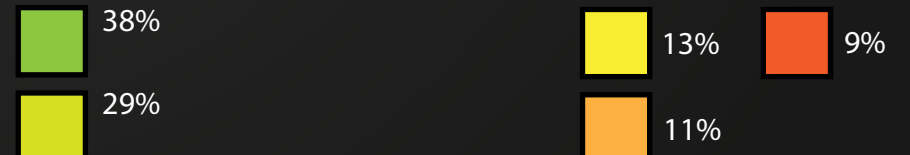
Age: 55

Occupation: Unemployed

David was asked to document and map his use of space within the property he lived. His results are shown below in the two story floor plans representing the Allen household.



Time Spent:



Mrs Huggan collaboration

To gain a better understanding of human behaviour, I also looked at a single elderly lady to observe and see how she uses space on a daily Basis. Where it is almost impossible to determine exactly how she will use a space within her property, assumptions and trends can be justified by carrying out this type of research.



Mrs Huggan - Persona analysis



Name: Margaret Huggan

Number of household generations: 1

Number of empty rooms: 2

I interviewed Mrs Huggan asking her to document the use of the rooms within her three bedroom semi-detached house.

As the sole resident of the house she has two empty bedrooms, which at one point her children and grand children occupied at different points in their lives. Most of her time is spent in the living room, similar to Mrs Allen, for relaxation purposes.

Upon interviewing Mrs Huggan I realised the majority of her time in her living room was not for relaxation but because she had no where else to spend it and nothing else to do. Once a traditional mother of two and wife to a husband, her days were spent a lot differently and a lot similar to those of Mr Allen.

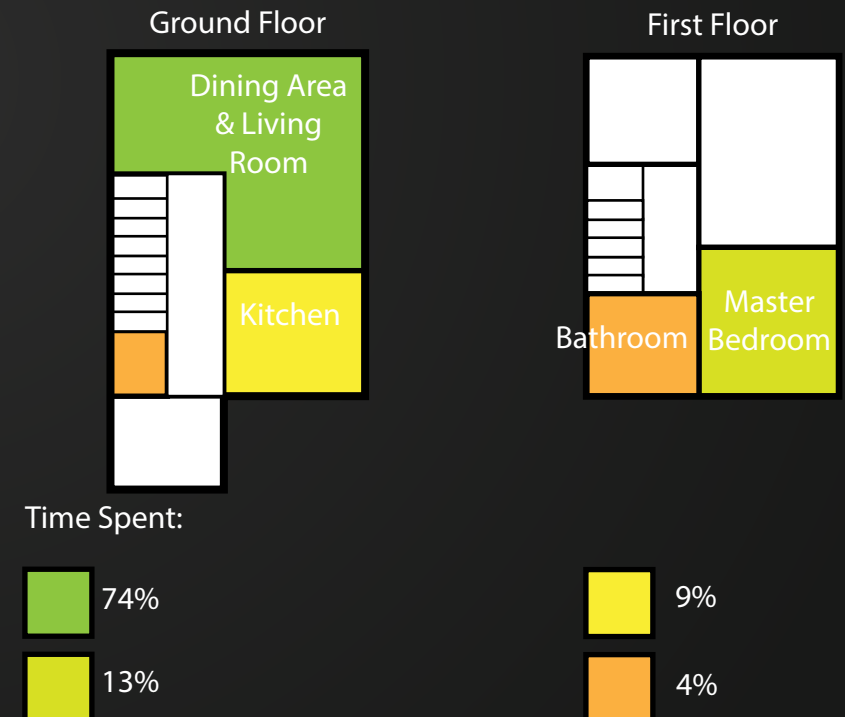


Name: Margaret Huggan

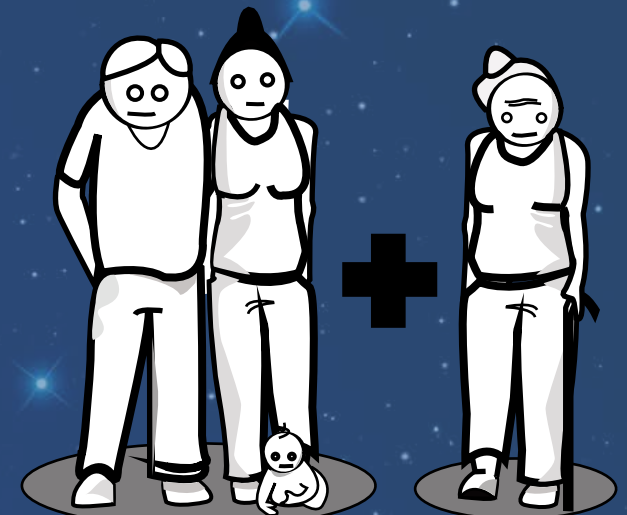
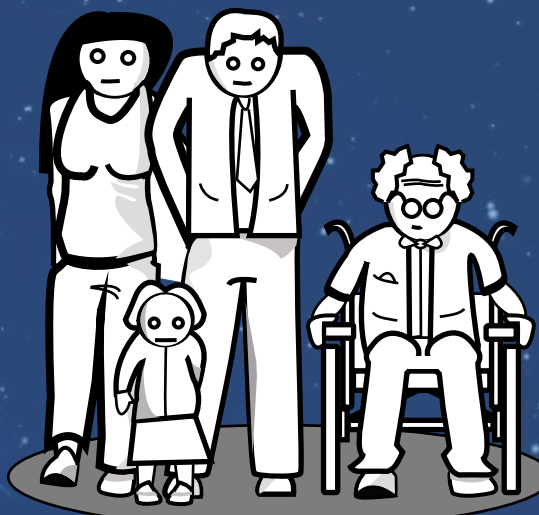
Age: 79

Occupation: Retired

Margaret was asked to document her use of space within the property she lived. Her results are shown below in the two story floor plans representing her household.

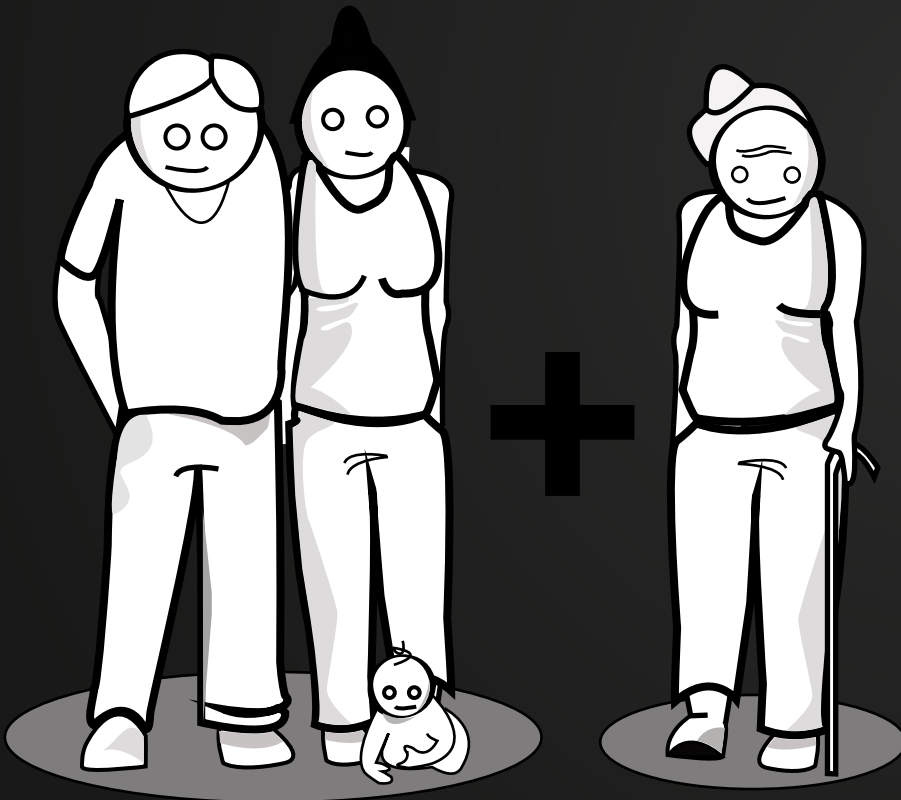


Concept persona generations



Persona 1 - 2 Generations

This young couple and their baby are looking for a property to accommodate themselves and one of their elderly parents who is recently widowed. Their reason for cross-generational living is to provide company for their parent as well as a means of getting on to the 'property ladder'.



Bedrooms

A minimum of three bedrooms would be adequate for a young and their elderly relative.



Bathroom

Two bathrooms would help in later life should this young couple have more children.



Living Room

A medium to large living room would be ideal for future flexibility.



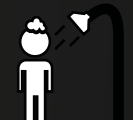
Kitchen

Two separate kitchens would help with anxieties of personal space and ownership.



Dining Area

A dining area of a reasonable size would ease hosting dinner parties and the alike.



En-suite

An en-suite could replace the need for a second bathroom.



Garage

A garage is not a particular necessity but could provide space for extension.



Garden

A garden would be desirable to increase the sense of personal space.



Building Levels

Ground floor accommodation would be needed for the elderly parent.

Persona 2 - Family Home / 3 Generations

This family of four live with one set of elderly parents. They have one child aged 8 and another aged 4, the oldest generations are fit and healthy. This families drive for living cross-generational was to reduce child-care costs, improve family relationships and reduce the over-all cost of living.



Bedrooms

A minimum of four bedrooms would be comfortable for this family.



Bathroom

At least two bathrooms would be comfortable for a family of this size.



Living Room

A large living room would be ideal for every-day family living.



Kitchen

Two separate kitchens would help with anxieties of personal space and ownership.



Garden

A garden would provide out door space for children to play in a secure environment.



En-suite

An en-suite would help with bathroom demands at peak times.



Garage

A garage could provide additional storage space, as well as space to expand.



Dining Area

A dining area of a large size would ease family meal time.

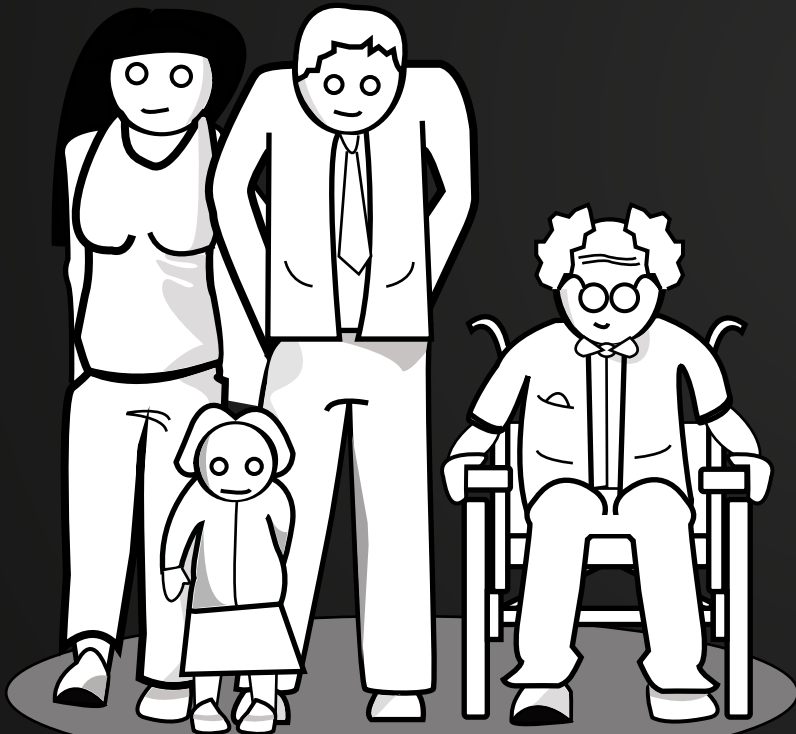


Building Levels

Ground level accommodation or elevated access is needed for elderly parents.

Persona 3 - 3 Generations

This family of three also live with one other elderly parent who requires a wheel chair. They have one daughter who is aged 5 and are looking to have another child in the near future. Their elderly generation is still independent with most aspects of every-day life but requires assistance on occasion.



Bedrooms

A minimum of four bedrooms would be necessary for this family.



Bathroom

One bathroom would be required for family usage, a wet room would prove beneficial for wheel chair access.



Living Room

A medium sized living room would provide enough space for family & friends.



Kitchen

A small adapted kitchen would give independence to the disabled elder, whilst a large family kitchen would also be required.



Dining Area

An open planned dining area would improve wheel chair access at meal times.



En-suite

An en-suite could improve bathroom demands at peak times.



Garage

A garage could provide additional storage space, as well as space to expand.



Garden

A garden would provide space for a hobby such as vegetable growing or other similar interests.



Building Levels

Wheel chair access is a must, for efficient manoeuvrability around the property.

Persona - Family Home / 3 Generations



Family Home - 3 Generations

In order to gain a better understanding of how this family would operate, when all occupants were in the dwelling at the same time, I have taken a floor plan from one of the four bed properties I visited and created a daily scenario.

As all of the individuals would have their own bedroom I have discounted these solitary spaces and focused on the communal areas of the property.



Morning

During a busy morning when all residents are awake and operating the ground floor, the majority of this space will be used by all members throughout the morning.



Midday

At midday the oldest generations settle down for the afternoon, operating the quieter areas of the property; living room and kitchen.

During this time the second and third generations operate the family room which is used as a means of entertaining the youngest generations.

Whilst in the kitchen the older generations also prepare all of the meals for lunch, which is always served in the dining room to all members.

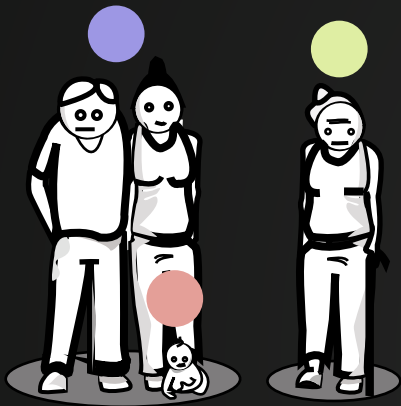


Evening

As the day progresses the roles from midday, change. The second generation parents mainly dwell in the living space of the property, as a means of relaxing and spending company with each other.

The eldest generations spend time with the children and see to their needs.

Persona - 3 Generations



2 Generations considering living together

In order to gain a better understanding of how this couple and their elderly parent would live, when all occupants were in the dwelling at the same time, I have taken a floor plan from one of the four bed properties I visited and created a daily scenario.

As all of the individuals would have their own bedroom I have discounted these solitary spaces and focused on the communal areas of the property.



Midday

During midday one of the middle generations prepare lunch for the eldest and youngest generations.

Whilst as a whole they all operate the family area throughout the day, providing care and company for each other.



Morning

On a morning the eldest generation would be the first to wake and thus prepares breakfast for the younger generations, where they all eat together.

The youngest generation is cared for in the family room by the eldest generation after a restless night.

The second generation couple relax and 'wind-down' in the living room away from the sometimes noisy environment.



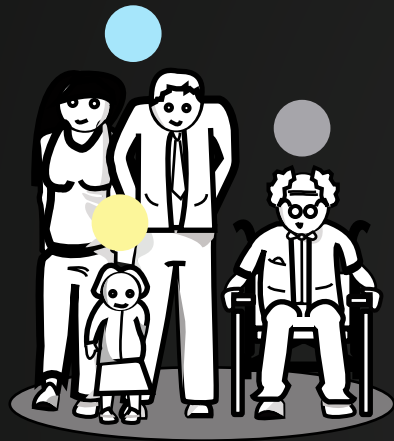
Evening

Towards the evening the eldest generation occupies the kitchen preparing and cooking meals for the younger generations.

During this time the youngest generations is cared for by his parents in the family room.

After meal time the eldest generation uses the solitary status of the living room to relax and 'wind down'.

Persona - 3 Generations



3 Generations with an elderly dependant

In order to gain a better understanding of how this family and their elderly parent would live, when all occupants were in the dwelling at the same time, I have taken a floor plan from one of the four bed properties I visited and created a daily scenario.

As all of the individuals would have their own bedroom I have discounted these solitary spaces and focused on the communal areas of the property.



Midday

Although disabled, the eldest generation in this family also assists with short term child care whilst the parents use the spare time to relax and carry out house hold tasks.



Morning

The second generation parents provide breakfast for their child and their dependant elderly parent.

After breakfast the eldest generation moves into the living room where he spends the majority of his time. This provides a quieter environment and an area which is free of clutter and children's toys.



Evening

Dinner is again prepared by the second generation couple, however the eldest generation tends to eat separately and prepares his own meals from time to time. These are generally consumed within the living room, so that the two younger generations can have more time together.

Property Timeline

Using the same floor plan as previous examples, I took one family and time lined their lives as well as the life of the property over several years.

I created a 3 story building from the floor plans to demonstrate the concept of how a property may be configured or changed as a family evolves.

The purpose of this exercise was to demonstrate how a building that had modular scope to it, could evolve and be adapted with the family, as opposed to the family adapting to the building.



Year

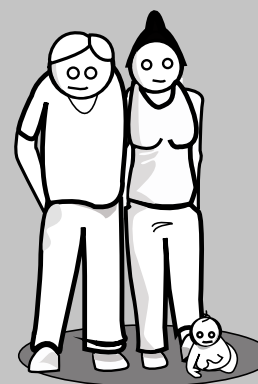
2015



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Year

2025

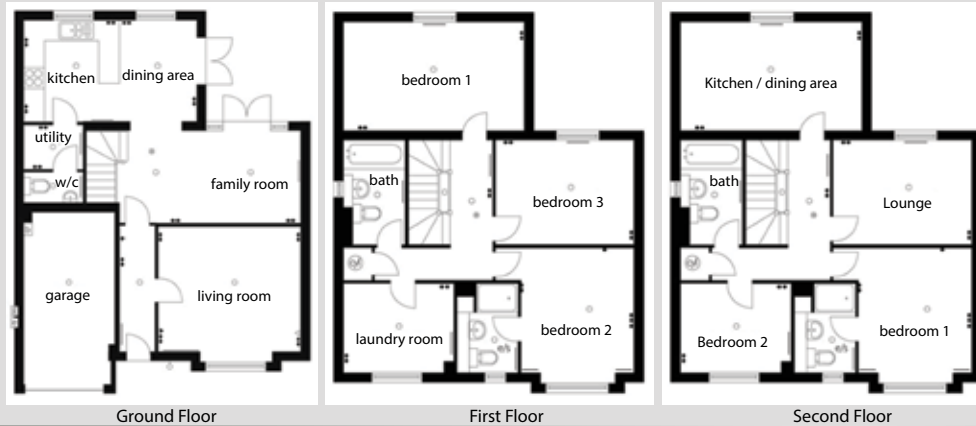


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Year

2029



Family of four + Elder Generation

- Their 3 story property is configured so that the second floor is a separate, self contained apartment housing the eldest generation.
- The ground floor and first floor are arranged to that of a standard house.

Why?

- This families elder generation wanted to help their children with several deciding factors; child care, cost of living and getting onto 'the property ladder'.



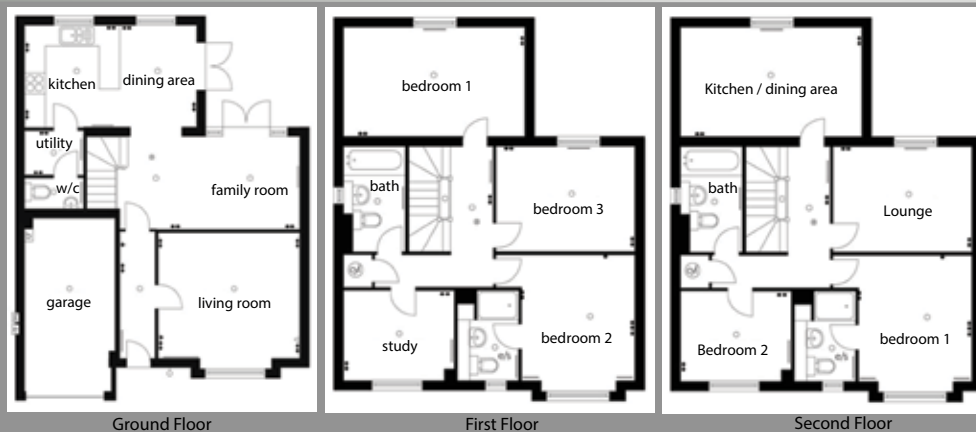
Family of four + Elder Generation + External family

- A decade later the order of the property has not changed much but the residents inside have different needs.
- The eldest son is moving out for university, his room is now situated where the laundry room used to be as he will only be home during school holidays. The spare room is occupied by the eldest generations who continue to help out.

- The self contained apartment on the second floor has been let out to a young couple who are just starting out in life.

Why?

- By letting out the apartment, the revenue from the lease helps to pay for university fees and further eases the cost of living.



Family of four + Elder Generation

- Four years have passed and the eldest son has now returned from university.
- The young couple who used to let the apartment have moved out and into a larger property for their increasing family.
- The youngest child has now matured and is looking for a place of her own.

Why?

- As a result of the housing 'boomerang' the eldest child is now in a position where he has to return home due to a lack of financial independence. The youngest child has matured and is now wanting a place of her own also. Together they accomodate the second floor apartment, maintaining their sense of independence.

Spark family collaboration

As part of one of my explorative tasks, I was able to make contact with a family who practice cross generational living. This is the spark family with a total of three generations in their household.



The Spark household

This is the Spark household. There are 3 generations living in this property. Grandparent, Evelyn. Parents, Lynn & John. And Grandchildren Michael and Adam.



On entry to the property there are three ground floor rooms. Michael's bedroom immediately to the left, the kitchen ahead and the living/dining room to the right.

Michael suffers from cerebral palsy and requires care assistance. His add-on bedroom to the property was designed for people with his condition.



As Michael is unable to walk, he has an electric over-head hoist which carers operate to move him from his bed to his en-suite.

The Spark household

Due to Michael's condition he needs to be monitored throughout the night. In order to do this without interrupting Michael, his parents installed a camera to watch over him.



His bathroom is relatively normal, with the exception of a raised bath. This makes it easier for the carers to bathe him. Above, the hoist rail runs over the top to help aid access.

The kitchen is of an adequate size but both Evelyn & Lynn did mention that they can struggle for counter space when preparing and serving meals.



Off to one side of the kitchen is a door which opens out into the dining area. Lynn mentioned that this helps ease the flow of people traffic at meal times.

The Spark household

Through the kitchen door the living and dining room run the full length of the property so space in this section of the house feels spacious and open.



Upstairs the property has a further three bedrooms and a family bathroom. The landing space is fairly narrow and can get quite congested when more than one person uses the space.

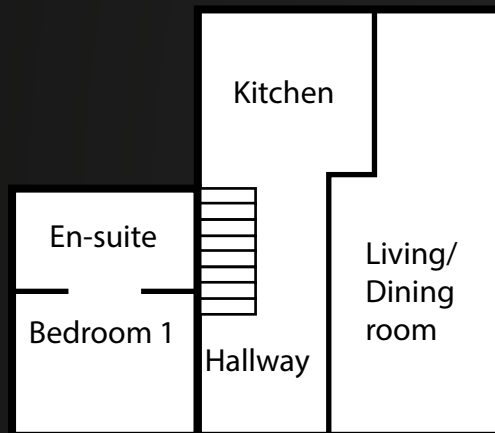
Lynn and Johns bedroom, the master bedroom fits a double bed. With plenty of storage space the bedroom meets their needs.



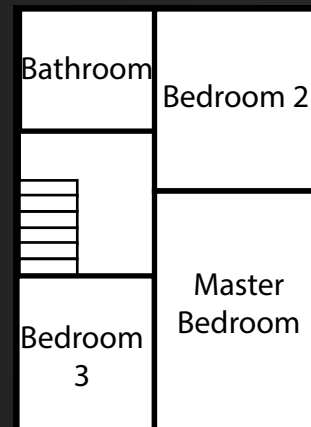
Evelyn's room is the smallest, where her single bed almost fits the entire length of the room. She added that she requires no more space and is really happy with the arrangements.

Discussion

Ground Floor



First Floor

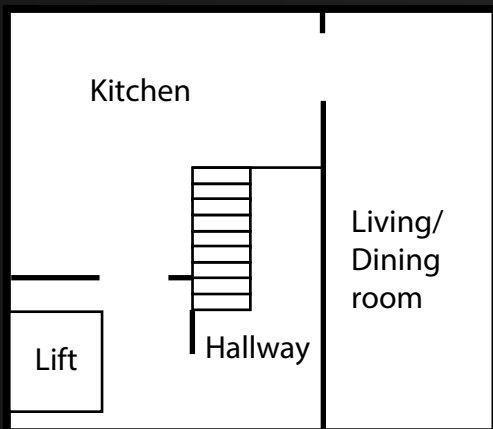


From visiting the Spark household and documenting each room I was able to map and draw up a basic ground floor layout. With this finished, I set about trying to implement some of the advice and requests the Spark family had mentioned. After much deliberation we collectively came together to produce a revised layout that met the wishes and criteria of Lynn and her family. Notes we needed to consider were;

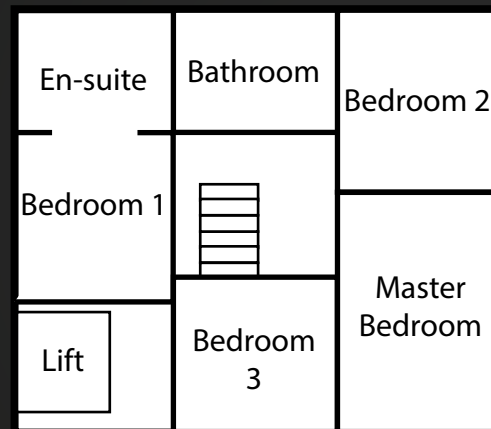
- Larger kitchen space.
- Bedroom 1 to be moved upstairs.
- Bedroom 1 to be made slightly larger.
- Bedroom 1 en-suite would be more practical as a wet room.

Concept Generation

Ground Floor



First Floor



Firstly we changed 'bedroom 1' by using the space for a lift shaft. This enables access for Michael, who uses a wheel chair, to have his bedroom situated upstairs.

The next area we addressed was the kitchen. By extending out so that the house perimeter was parallel with 'bedroom 1' existing wall; we were able to increase the overall space of the kitchen as well as occupy the now redundant, en-suite space. We also brought forward one wall where the old kitchen was situated. This opened up the downstairs dining area and created more space.

Upstairs we extended 'bedroom 3' and the bathroom to create slightly more space. Above the newly built kitchen, we repositioned the original 'bedroom 1' and en-suite (wet room). This bedroom has direct access to the lift shaft.

3D Concept Generation

The images show the concept I designed for the Spark family. I constructed the model from Foamcore. I constricted the concept so each floor could be separated and observed more clearly.



This image is of the 1st floor. I modified the bathroom as well as Evelyn's room by making them larger. With the extension, I used the space to create a lift shaft for wheel chair access and moved Michael's room upstairs.

On the ground floor I extended the kitchen to make it larger. I also used the space to the left of the entrance as the entrance/exit of the lift. I finally made the dining room more accessible.



I received feedback directly from Lynn who was very pleased with the result:

"I thoroughly enjoyed being part of the conceptual process, Michael used his skills in design to clearly present our direction.

We would gladly aid him where we can as the project progresses."

Fontburn Court

As we all inevitably get older, I needed to make myself aware of the different aids and support one may require later in life. As a research task this was particularly insightful which turned out to be an invaluable opportunity.



Fontburn Court

This is Fontburn Court, a sheltered housing scheme in Newcastle. An apartment here can cost upwards of £500 per month.



There are 31 Apartments at Fontburn. Although apartments are numbered to 32, there is no apartment number 13. This is down to superstition as residents believe it to be unlucky!

On the ground floor near the main entrance is a communal sitting room which is used for a wide range of activities, including Christmas lunch.



Just off the sitting room is a communal kitchen. Twice a week an outside caterer cooks and sells meals to the residents through the serving hatch.

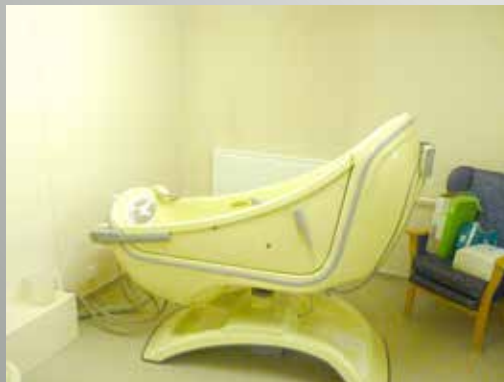
Fontburn Court

Fontburn Court provides a 24 hour care service to residents that require it. The care team had been provided by the council but are now supplied by a private company.



Down from the sitting room is a communal laundry room. All able residents use this facility as their apartments have no washing machines.

Opposite the laundry room is the ground floor communal bath. The bath available provides easier access for residents with varied mobility disabilities.



There is also a small garage available for residents that use wheel chairs and mobility scooters.

Fontburn Court

On-site there is also a hair dresser available. This is provided by a private company who works there on set days.



The corridors provide enough space for wheel chair access and have full length hand-rails throughout.

The stairwell has a large open space on each floor to further improve accessibility. There is also a lift which is vital to the residents on the upper floors.



The upstairs communal bathroom also provides bathing facilities for disabled residents.

Fontburn Court

This is a small, self contained, guest room which offers accommodation resident's guests.



Next to the guest room is a shower room. As a wet room this enables easier access for people with disabilities.



On each floor is a ventilated rubbish room. Residents dispose of their apartment rubbish here where it is then thrown out by the court's caretaker.



Each apartment front door has a shallow sill where a milkman leaves a bottle of milk each morning.



Fontburn Court

This is Alma. Alma is 82 and has been a resident at Fontburn for 4 years. Alma was kind enough to let me see inside her apartment to aid my research.



Standing in the doorway this is a shot of the entrance corridor. The apartments themselves, are not large at all but perfectly adequate for one person.

Again the kitchen isn't particularly large as it is not required. All the units, cabinets and appliances are at lower height to aid access and mobility.



The bedroom does not differ much to that of an able persons bedroom. In terms of size it is comfortable. An additional hand rail has been added to the bed frame for access.

Fontburn Court

From the other side of the bedroom there are two small doors which open out into the bathroom. The carers mentioned they find it easier in terms of mobility than traversing the corridor.



The bathroom is similar to the communal shower room, that being a wet room with the addition of rails and chairs.

What I Learnt?

Just being able to visit a sheltered housing scheme has really opened my eyes to the many forms of disability and care required for the residents involved. I found many things I would have not usually considered previously, like; the communal rubbish room and the double door way it used to prevent any odours escaping, the shallow sill used to sit delivered milk bottles, the garage lock-up for mobility scooters and the in-house hair dressers. All are things relating to aspects I would have never considered had I have not had this experience.

An enjoyable experience in all, with many thanks to the staff and residents of Fontburn court.

Architecture

Social sustainability cannot be created simply through the physical design of a community. But then neither can environmental sustainability be created by physical design alone. Physical design cannot ensure that individuals, families and communities will lead environmentally sustainable lifestyles, although it can help to make such environmentally sustainable choices more easy.

Equally, while there is much that can be done on a community infrastructures “design” to ensure its social sustainability, the physical design of the community and dwelling can make it either easier or more difficult for communities to be socially sustainable. Therefore there is a vital need to integrate the physical and social design of communities if we are to create communities that are both environmentally and socially sustainable.

In order to create a property which is socially sustainable there are a whole range of factors to consider. At any one point there could be a range of generations operating multiple spaces within a dwelling at any one time. As a result the architecture of a building is something that should be considered carefully.



Architecture

In order to gain a better understanding of a buildings parameters, design and order I looked at the fundamentals of architecture. I a wide variety various books and spoke to several student architects to find a grounding and understanding of the basic principles of architecture. From my research I produced a small guide to help aid my decisions for the second part of this project.



" A building must be like a human being. It must have a wholeness about it, something that is very important. "

- Minoru Yamasaki.



" Architecture doesn't come from theory. You don't think your way through a building. "

- Arthur Erickson.



" Architecture should speak of its time and place, but yearn for timelessness. "

- Frank Gehry.

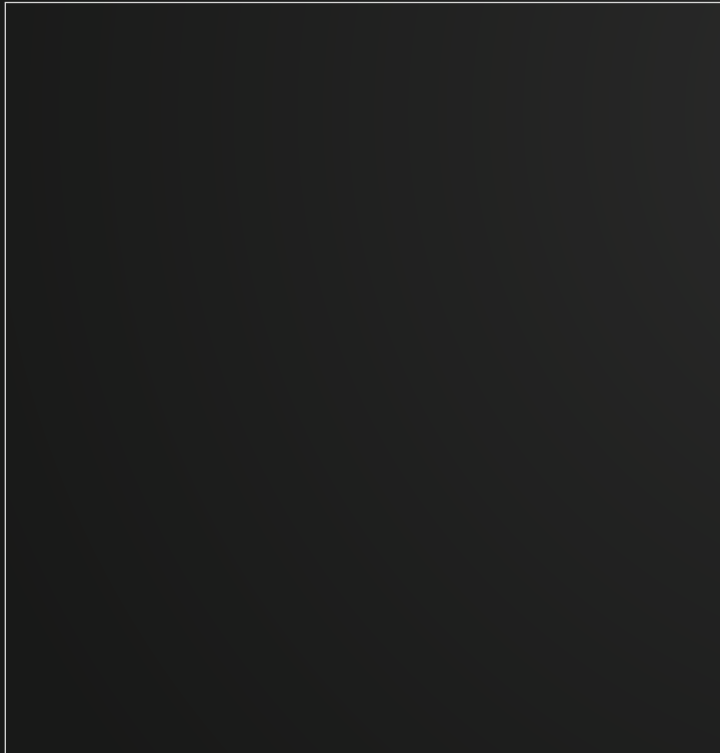


In any architecture, there is an equity between the pragmatic function and the symbolic function. "

- Michael Graves.

Architecture

We live in variety of ways, every culture has their own idea of what they regard as home. As well as studying the architecture of buildings, I have been exploring building archetypes. There several avenues of housing I could choose, with each one bringing there own advantages and disadvantages. I have consolidated my findings in the book below.



An aerial photograph of a residential neighborhood, likely in the UK, showing rows of terraced houses with red-tiled roofs. Many of the roofs are equipped with solar panels. The houses are surrounded by greenery and parked cars are visible on the streets. A yellow banner is overlaid across the top of the image.

Environmental Sustainability

In today's day and age it seems ludicrous that we are still producing properties for ourselves, as well as future generations, which lack in the most basic principles of environmental sustainability.

Although this project is primarily focused on how people are currently living together, and how cross generational living could change our perception of 'the family home'. It feels wrong to completely miss out the importance of environmentally friendly technologies. After-all, changing the way we think about how we live is a key element to what this project is about. Over the next few pages I have listed a collection of feasible solutions which could vastly improve the way a family home consumes and produces energy.

Environmental Sustainability

Solar thermal panels.

Solar Thermal Collectors use sunlight to heat water. The closed-loop solar collector systems use electric pumps, valves, and controllers to circulate a glycol-water antifreeze mixture through the collectors and into a hot water storage tank.



Micro wind turbine.

Micro and small wind turbines generate renewable electricity from wind. Rotor blades are aerodynamically engineered to take optimal power and then turn a turbine to generate electricity.

Glass laminate PV.

Solar PV Panels can be used to replace a number of architectural elements that are commonly manufactured from glass. Solar PV Cells in building facades and roof light systems can result in an economical use of solar energy.



Vertical axis turbine.

Vertical-axis wind turbines are an alternative to standard wind turbines, where the main rotor shaft is set vertically and the main components are located at the base of the turbine. This makes them easier to service and repair, they also do not need to be pointed into the wind.

Environmental Sustainability

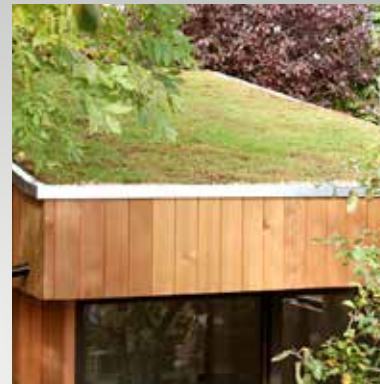
Micro wind cowl.

A wind cowl supplies and extracts air to and from a building to maintain good air quality whilst minimising heat loss. In combination with a heat exchange unit, the extracted air heats incoming fresh air.



Extensive green roof.

Green roofs serve several purposes for a building, such as absorbing rainwater, providing insulation, creating a habitat for wildlife, and helping to lower urban air temperatures and mitigate the heat island effect.



Triple glazing.

Triple glazed windows are even more energy-efficient than modern double glazing. Triple glazing allows a high level of solar heat gain, capturing free heat energy from outside during the daytime to warm the home.



Woolen insulation.

Woolen insulation is an all natural fibre use in many applications for thermal insulation. It's efficient, sustainable, safe, durable and affordable.



Environmental Sustainability

Ground heat pump.

Ground source heat pump systems are used to provide heating and cooling for developments. It is an efficient electrical heating and cooling system that can be powered with fossil fuel electricity or renewable energy.

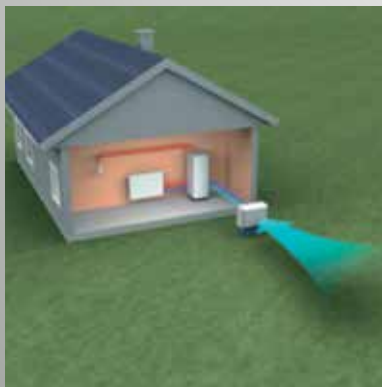


Biomass boiler.

A biomass boiler uses agricultural, forest, urban and industrial residues and waste to produce heat and electricity with less effect on the environment than fossil fuels.

Air source heat pump.

An air source heat pump is a heating and cooling system that uses outside air as its heat source and heat sink. In domestic heating use, it absorbs heat from outside air and releases it inside, and can often do the converse in summer.



Recycling.

Recycling has been a common practice for most of human history. It includes many kinds of materials from glass, paper, metal, plastic, textiles and even compost.

Summary of research

Over the last few pages I have summarised my findings into simple principles which I aim to follow and consider as I progress onto the second stage of the project.

Research events - What did I learn?

Environmental Study.

By researching and studying factors on housing and the environment I was able to get a more clear understanding of how we, as home owners, can have an effect on the environment.

As a result, I was able to identify energy efficient products and systems, which could be feasibly implemented on a development. I also discovered these could not only benefit the world we live in, but also help change the way we live.

Current Housing Developments.

Being able to see first-hand what current housing developments are like, was an invaluable experience. I discovered what it was like to appear as a customer, which opened my eyes to key selling points of a property.

I also learned that changing in UK building regulations now permit 3 story town-house as the new 'norm.' This reduces ground floor perimeter space by building up as apposed to out.

Elderly Residential Care Schemes.

Fontburn court was definitely my most enjoyable research task. I met a lot of pleasant people who were more than helpful in providing me with information.

Fontburn made me realise some of the true inevitabilities of age. My experience there brought to light a lot of real concerns with regards to access to properties, mobility through space, social economics, privacy and interaction.

Cross Generational Family.

The Spark family was one of my main goals for this project, in terms of research aspirations. It was vital that I got to experience at least one opportunity to witness my topic area 'in the real world.'

I learnt an awful lot on how a family unit can work together. It was a joy to observe everybody within the family playing their roll as they would any other day. It was here that I truly realised that this topic was meaningful.

Architecture Study.

Although time consuming at points, I must admit I feel a lot more confident having read material on architecture and speaking to student architects.

Originally I wasn't too sure how relevant this insight would be. But by looking at the basics of architecture, I am now able to consider a wider scope of variables to which I can included in my final concept.

Persona Development.

This research task was probably the least effective one I investigated. Originally my vision was that I could create personas from people on how they use the rooms within their property, which would ultimately reinforce and dictate my direction .

However this process was very time consuming and the results I got were relevant for that particular family, but were not a solid enough foundation to which I could apply to any further development.

Discoveries

Designing a house is a challenging venture. Designing a house which is not only environmentally sustainable, but socially sustainable too, is quite a task.

However due to my explorative research and reading material digestion, I feel that I have accomplished my goal by discovering a key set of principals which I must address. I need to take each discovery into account when I come to design my concept of a cross generational property.

Universal Design.

Aim to accommodate people of all ages, sizes and abilities, and allow them to live and function independently. This can be accomplished by eliminating or modifying those features that may be obstacles or dangers for the user, while also adding considerations for their safety, comfort, and ease of use. Such items include...

Entry ways.

For proximity with privacy, it is encouraged to build an independent entryway for any addition to a home. For it to become user friendly for all generations, it should be a covered, well-lit, and level entry approach.

Ramps should also be considered when planning for the future, with this, door ways should also accommodate wheelchair access.

Stairs.

Similarly to entry ways, stairs can become dangerous and also a challenge, not just for the elderly but younger generations too. Sturdy handrails on both sides can greatly assist mobility, safety and access. Stairwells should be well lit, with light switches at the top and bottom of the stairs. Well-defined steps should emphasise the edge of the tread, whilst the tread itself, should be deep enough for sure footing.

Elevators.

Elevators can grant access to any floor for anyone, regardless of disability. They're not only useful for transporting people but also heavy packages, furniture and groceries. By installing an elevator you're creating access to areas which others may not be able reach usually. An elevator is an inclusive design approach.

Hall ways.

With an increased number of potential people, in any given space within the property, it would be wise to accommodate this influx by increasing the sizes of corridors and social spaces. -Or- reduce unnecessary clutter in these congested areas.

Discoveries

Bathrooms.

There are now many innovations for people who require access for special needs. From chair lifts to sit-in showers, the options are endless.

From my experience at Fontburn an innovative way to address this issue is with the use of a wet room. This allows abled body people access as well as disabled people.

Toilets.

As our bodies age, the stress of every day obstacles can take its toll. Simple things like bending and sitting become painful chores. One simple way to avoid unnecessary physical stress is by increasing the height of your average toilet by two inches.

Sinks + Baths.

Sinks with a vanity area are a no go for people in a wheel chair. Wall hung sinks are a better alternative.

We all like a bath from time to time, but as we age, the difficulties of getting in and out as well as the fear of slipping can become a real problem. If its a must, there's now the option of walk in baths!

Bedrooms.

It has been said that people spend more money on their coffins than they do their beds. Certainly one of the biggest considerations for making your house comfortable is choosing the right type of bed for your needs.

Cupboards with adjustable shelving and rails can allow for more flexibility. A small fold away chair can also assist when putting shoes and socks on.

Kitchens.

Universal design has evolved over the past two decades in response to the growing population of the elderly and disabled. However, it does not require every counter to be lowered to wheelchair height. Instead, it can mean having one section of the counter lower and another higher, enabling an elderly mother and adult child to prepare meals together.

Work-space and Counters.

For a kitchen to be a safe and efficient, it is important to avoid wasted motion. An efficient kitchen is generally designed around a work triangle formed by the location of three basic work centres; the refrigerator, sink and oven.

Discoveries

Kitchen - Appliances.

To reduce reach, it is more efficient to have refrigerators side by side. For stoves, they should be front or side Controlled.

Side swing oven doors make it easier to be positioned in front of the oven when loading and removing food. A pullout shelf underneath the microwave or oven creates an immediate counter for hot food.

Laundry Rooms.

When looking in to having a laundry room, certain aspects need to be taken in to consideration. For people who have trouble bending down; washing machines should be top loading making it easier to load a wash. Putting it on a raised platform is a subtle feature but effective.

It can often make sense to situate the laundry room on the upper levels of a building.

Floors.

Tripping and slipping are two major safety concerns in a home. Floors can be made slip-resistant by adding non-skid mats under area rugs or getting rid of them entirely. Floors should be level with a non-slip surface.

Lighting.

Extra lighting should be placed in places such as the edge of the bed or in the bathroom where accidents are more prone. Adding lighting near steps or the front door will help illuminate the task ahead. Illuminated rocker or touch sensitive wall light switches are easier to use than the toggle light switches.

For wheelchair users light switches should be placed lower down so they are more reachable.

Colour Schemes.

When decorating a house/home, colour schemes should be taken in to careful consideration for numerous reasons. As a persons ages, their lens can yellow-which can then alter their quality of vision. In some cases its advisable to use bold and contrasting colours to make things easier to see. Contrasting borders on floors and along counter tops for extra definition and depth can increase perception.

Communication.

One of the benefits of living in an electronic age is that technology can be put to work to help us in a number of different ways. Monitors, buzzers, intercoms between two properties or telephones are just some of the ways to get the message across.

Exploratory Concept 1

Shared Modularity

This concept is based around a dwelling which houses up to 3 generations and allows the property to be internally modified, if required, as time progresses.

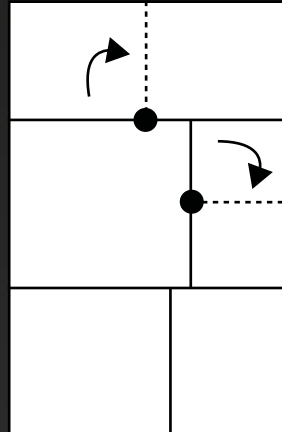
How?

In terms of modification, the property structure houses the basic shell, where by the internal walls, thus rooms, can be re-arranged to create alternate living spaces.

From the outside the property can be viewed as one whole dwelling as all residents accommodate the space, sharing communal areas such as living rooms, bath rooms and dining rooms.

Why?

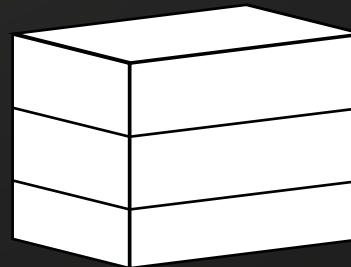
This proposal allows for the utmost flexibility for residents without the need for major renovations. It takes a new systematic approach to the way we currently build and live in our properties.



Internal floor plan (illustrative purpose only)

Each wall section can be configured, arranged, replaced and adjusted without the means for major refurbishment.

Initially made off-site and prefabricated, each section is placed systematically specific to the resident.



External outlook (illustrative purpose only)

Set over three stories this property allows for multiple generations to be accommodated, whilst maintaining a relatively condensed ground space.

Exploratory Concept 2

Two in One

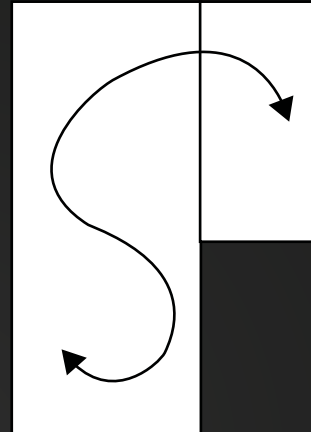
This concept is more of an architectural approach, where by the main focus is on creating a proposal which eases every day living through well-considered design approaches for each room.

How?

Similar to a standard dwelling, this proposal makes use of an additional annexe building which could be attached or detached to the main body of the house. In this annexe building there will be a self contained living space for a single or couple of an elder generation. Again main communal areas are shared such as family living rooms and dining rooms.

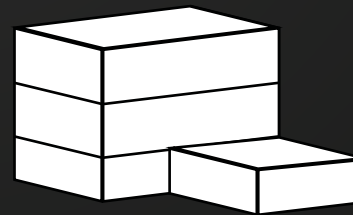
Why?

This proposal keeps a family unit together but has the flexibility for a greater sense of independence for all the residents inside.



Internal floor plan (illustrative purpose only)

More of an architectural proposal, this concept uses the addition of an annexe building which could house and elder generation or matured children.



External outlook (illustrative purpose only)

This concept utilises a ground floor annexe to ease access and manoeuvrability for elder generations.

Exploratory Concept 3

Separate Modularity

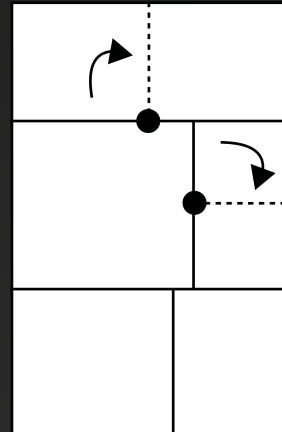
Similar to shared modularity, this proposal uses the same idea in terms of flexible living. However this concept is focused around maintaining an individuals sense of independence.

How?

This is achieved by the first and second floor having the ability to be closed off transforming the property from a house to up to 3 apartments. Modular wall panels and internal walls can be replaced with alternate door frames creating different entrances into the properties.

Why?

This could be useful when children mature and seek their own independence, as well as a solution to the 'housing boomerang'. There are also other uses such as a means to produce another form of income.

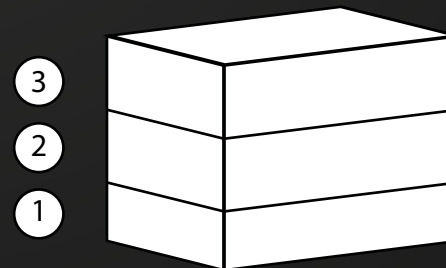


Internal floor plan (illustrative purpose only)

Each wall section can be configured, arranged, replaced and adjusted without the means for major refurbishment.

Initially made off-site and prefabricated, each section is placed systematically specific to the resident.

External outlook (illustrative purpose only)



This property is purchased as a whole and can house up to four generations.

With external modular panels, as well as internal modularity, this proposal can be modified and divided up into separate apartments.



Conclusion

I would be lying if I claimed that this project hasn't phased me, that I took it all in my stride. In fact it has been the most challenging and daunting process I have been through.

Even after stage one of my research, and all of the time I have invested in this project, I could still not consider myself to know the answers to cross generational housing.

My discoveries and explorative research have guided and directed me to a position where I do, however, feel able to produce a concept that has true substance and a compelling narrative behind it.

I also now consider myself to have a greater understanding of the subject and the confidence to continue, knowing that I will have completed this project to the best of my ability.

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