

Spring 2022
Capstone Process Book
Kelli Garriott

Summary

Ucare is a project focused on spreading awareness of dementia and the importance of family caregivers. Through personal experience, I have learned the struggles of living and caring for someone with dementia.

The main component of my project is an app called Ucare. It is designed to assist family caregivers in their day to day lives, connect with friends and family, and help their overall mental health. Having a support system and assistance when caring for someone is essential. I want this project to be meaningful and make people reflect on their own lives and their support system.

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Introduction

Caring for others is a key part of life. When a child is born, they rely on their parents or family to feed, dress, bath, and help them survive. Then they grow up and learn how to care and support themselves if they are in good health. However, very often, life comes full circle, and a person needs someone to care for them once again.

Elderly individuals can suffer from many things, causing them to need a full-time or part-time caregiver. During my research, I focused on Alzheimer's and Dementia because I have a deeper understanding through personal experience of caring for someone with Lewy Body Dementia. This

is an important topic because 1 in 3 seniors die with Alzheimer's or Dementia. Meaning, many people will experience having to be a caregiver for a loved one suffering from Alzheimer's or Dementia.

Through my research, I discovered that family caregivers deal with a lot of stress because people with dementia tend to have disruptive behaviors such as aggressiveness, making them very difficult to care for. An estimated 1 in 3 caregivers have depression which is about 31.24% and 42.6% have anxiety. Also, depression is very common in those suffering from Alzheimer's or Dementia. While it can be very difficult both mentally and physically,

to care for a loved one who suffers from Alzheimer's or dementia, it also can be very rewarding and the only option for some people.

My initial goal was to inform people about Alzheimer's and Dementia and give tips and tricks on how to care for someone suffering from it. While this is an important element and step in the process, it does not have a call to action or direct impact. That's when I decided to focus specifically on family caregivers and helping them in their daily lives.

The final concept is an app called UCARE.

The app is designed to help family caregivers keep track of schedules, connect

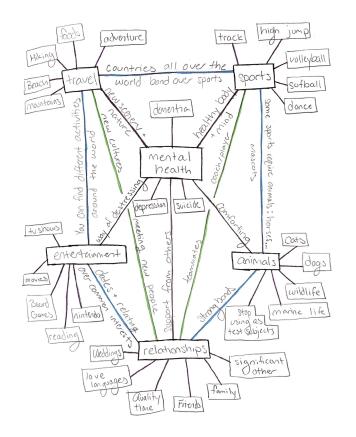
with close family and friends who are their support system, inform about dementia, and most importantly, help the caregivers focus on their own mental health. It is very important for caregivers to take care of themselves, so they can take care of others.

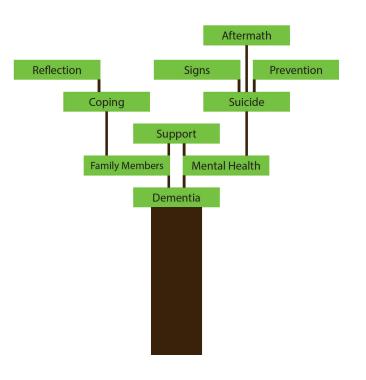


Exploration

The first step in the process, was to generate a list of 100 passions of mine. The passions could be a hobby, activity, person, place, or thing. When I created my list of 100 passions, I organized it into different groups to make it easier to see patterns. Once that was completed, I made a diagram that separated my main passions and how they connected to each other. Mental health was in the center of all my passions. Finally, I created a tree diagram that was focused on dementia.



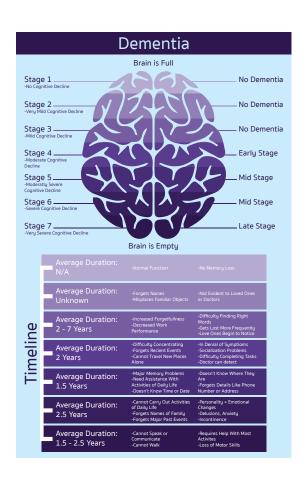


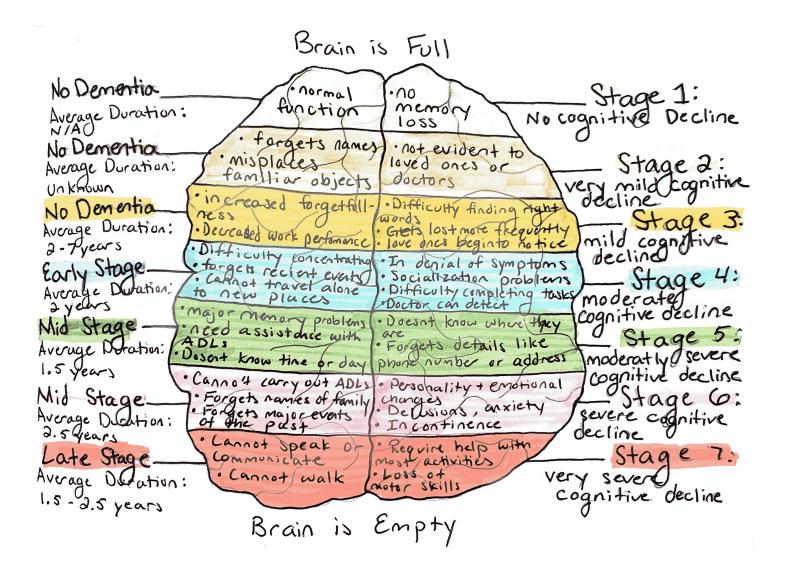


Choosing A Topic

From my 100 passions, the topic I settled on was dementia and how it affects mental health for both the person suffering from dementia and the caregiver. The reason I wanted to bring light to this topic is because my grandfather committed suicide as a result of dementia and depression.

Also, my grandmother became depressed when caring for my grandfather. I began creating infographics about dementia to visualize my research.





Research

I started my research by looking at general facts about Alzheimer's and dementia. I learned the different types, stages, and the symptoms. Then I started to research if there was any way to stop or slow down memory loss. I found that there is no cure or specific thing to help, but brain activities and exercising has shown positive impact on slowing down memory loss. Once I had a good understanding of Alzheimer's and dementia, I started to research how mental health is affected for people with dementia and their caregivers. I came across multiple articles about the relationships between dementia and suicide.

Burns, Alistair, and Steve <u>Iliffe</u>. "Dementia." *BMJ: British Medical Journal* 338, no. 7691 (2009): 405–9. http://www.jstor.org/stable/20512075.

"Dementia" by Alistair Burns and Steve Liffe focuses on all aspects of dementia. It gives a general overview of the burden of the disease both mentally, physically, and financially. It talks about the struggle doctors face differentiating between dementia and depression. It covers the different causes of dementia and how they are all very similar but also have some differentiating factors. It talks about the caregivers of people with dementia and how they typically have worse general health than dementia patients. Also, it talks about the use of antipsychotic drugs in institutional care and how there is widespread concern over the hazards of the drugs.

This article has been one of the most informative things I have read so far. It covers a few topics I have yet to think about and want to explore more. There is useful information but doesn't go super in-depth which I need. I do think this article will be good for my final research.

Keywords: Lewy Body Dementia, Parkinson's Disease, Antipsychotic Drugs

Jiang, Shan., Liu, Ran., Hou, Lijian. "Effects of Regular Exercise on Episodic Memory of the Elderly Over 60 Years Old." International Journal of Psychophysiology. Oct. 2021. https://www.sciencedirect.com/science/article/pii/S0167876021005973?via%3Dihub

"Effects of Regular Exercise on Episodic Memory of the Elderly Over 60 Years Old" is a scientific study that was done to see if there is a direct relationship of exercise and episodic memory of people over 60 years old. There were 54 participants in this study and were investigated through a questionnaire and behavior experiment. In their results, they concluded that there is a relationship between exercise and episodic memory for the elderly. There is a positive correlation, meaning the more exercise they did, the better their episodic memory.

I think the overall conclusion of this study could be useful in my final research. However, there is not a lot of useful statistics to explain why there is a direct correlation between exercise and episodic memory. If I investigate this topic more it could be useful to make comparisons to

Keywords: Episodic Memory, Exercise, Cognitive Function

Questions: How might sports play a role in memory when you get older?

Wastri, Mareda, E. Rubenowitz, B. Runeson, I. Skoog, K. Wilhelmson, and P. Allebeck. "Burden Of Illness And Suicide In Elderly People: Case-Control Study." *BMJ: British Medical Journal* 324, no. 7350 (2002): 1355–57. http://www.jstor.org/stable/25228500.

"Burden of Illness and Suicide In Elderly People: Case-Control Study" is about a case control study that was conducted in Gothenburg and two surrounding countries. The objective in the study was to learn about the association between physical illness and suicide in elderly people. The main findings are that serious physical illness and mental illness are strongly associated with suicide. Also, it tended to be more common in men, but that could just be because there were men in the study than women. I think this article is useful because it is a research study, and it supports my point of physical and mental health being a trigger for suicide in elderly people. It only has a small amount of useful information though. I would need to find other articles that can add onto the findings.

Keywords: Physical Illness, Mental Illness, Suicide

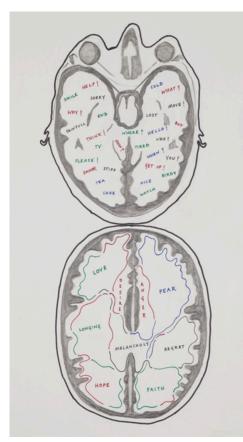
Questions: Why is it more likely for elderly men to commit suicide?



Visual Research

As a designer, it is hard to generate creative ideas for a project that is so clinical. So, I researched what designers have done in the past on the topic of Alzheimer's and dementia. I found some very unique depictions and view points.

I came across a sketch by Stephen Magrath, and is called "Dementia". The sketch is of the inside of a brain with words that describe the emotional state of someone with dementia. The upper half of the brain houses words that expresses their random thoughts and anxieties. The lower half of the brain houses words that represents their possible range of feelings.



Stephen Magrath



Utermohlen, William.
Self Portrait 1995



<u>Utermohlen</u>, William.
Self Portrait 1998



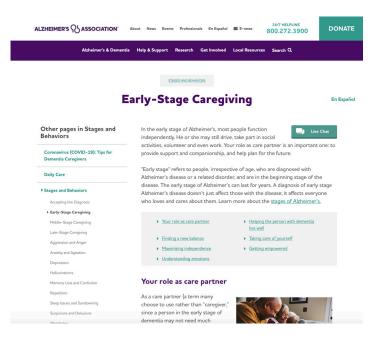
Self Portrait 2000

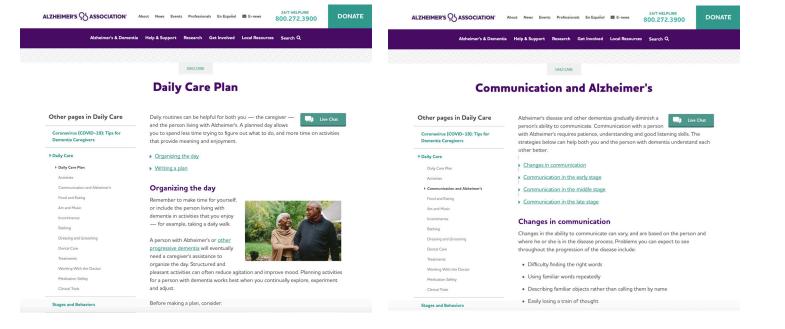
A man named William Utermohlen, is a German American figurative artist who is known for his series of self-portraits he did from the beginning of his onset of Alzheimer's disease to the end of his life. William was diagnosed in 1995 and died in 2007. The drawings documented his gradual decay of his mind. His nurse Ron Isaacs said, William's efforts helped to understand the deeply psychological and traumatic aspects of the disease. I think these images are unique and impactful because you can see the portraits lose detail and become more abstract the worse the disease got.

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New Research

After weeks of brainstorming final deliverables for my project, I had a meeting with my professor to narrow down my ideas. We discussed designing an app because it is easily accessible. Once this was decided, I did specific research on how to care for someone with Alzheimer's and dementia. The most useful resource was the Alzheimer's Association. I was able to find information about caregiving in different stages, daily care plans, how to communicate with someone who has Alzheimer's or dementia, and more. This information was very useful in determining what elements should be in the app I created.





Inspirational Research

One project that really inspired me is Noel Cunningham's, 2012 MICA GDMFA Thesis. Her project is focused on how to make design and technology play a role in building more consistent care for individuals with Autism. She developed a prototype of an app called *WeSync*. To present the app, she created a motion graphic video that also included videos of real people. Her exhibition space is very powerful too because she displayed her design process and three posters that emphasize how important this topic is because 1/88 kids have Autism.



PROTOTYPE

WeSync is an online tool that helps caregivers of children with Autism share and manage information with parents, teachers, relatives, and others.

Audio by Lullatone. Video best viewed in Google Chrom

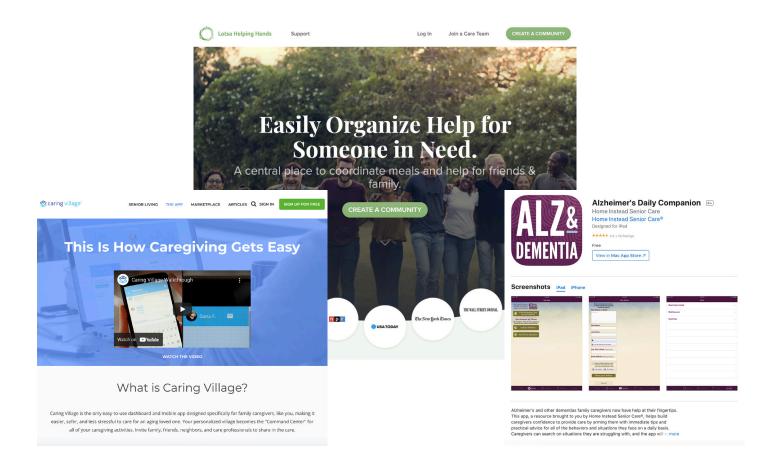


EXHIBITION

April 6-April 15, 2012, Meyerhoff Gallery at the Maryland Institute College of Art.

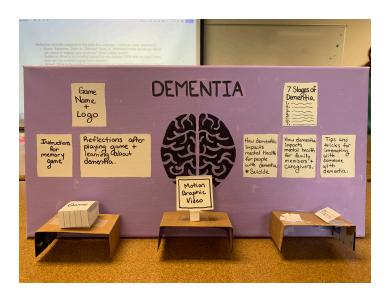
Icons by Eric R. Mortense

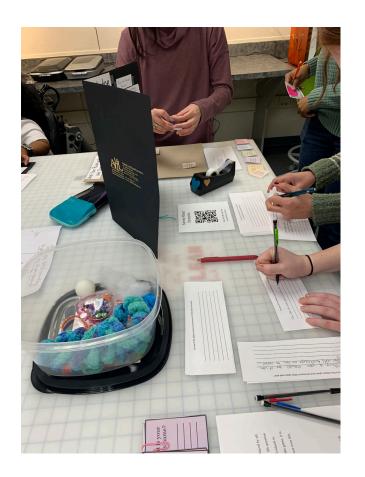
Competition



Prototypes

During the initial stages of prototyping, I was focused on teaching people about dementia. I created a physical mockup of what I imagined my exhibition space to be. I wanted to have a memory game that would benefit people with dementia, a video and posters with information, and a takeaway. For the pop-up exhibition, I created 5 activities. The activities were meant to test my classmate's knowledge, spark memories, and see what their relationship to dementia is. The main takeaway from this exercise is that people aren't super interested in learning boring facts. Also, I need to make my designs catered towards people who don't have dementia.







Revised Prototypes

For my second round of prototypes, I shifted my focus from dementia to overall brain health and memory. I wanted to make a project that everyone could relate to and help them in their own lives. I was going to call it Memory Trek and have four stations that the viewer would go through. The first station was a visual challenge to test the viewers memory. The second station was a speed challenge that would test the viewers brains processing speed. The third station was a sensory activity meant to spart the viewers memories. The fourth station was meant to make the viewer feel like they had memory loss. Then I was going to have a takeaway for the viewers to take to encourage them to exercise their brain to prevent memory loss.



VISUAL CHALLENGE

In this challenge, you will be testing your visual memory. You will watch a sequence pop up on the screen and you will be asked to recreate it using the objects on the table. The sequence will be presented on the screen for 10 seconds and you will be given 20 seconds to recreate the sequence. Each stage will get increasingly more difficult.

SPEED CHALLENGE

In this challenge, you will be testing your brains processing speed. You will see how long it takes you to figure out how many squares you see in the image on the table. When you are ready to start press start on the timer and flip up the cover to reveal the image. When you think you have the correct answer, press stop on the timer. Record your name, age, time, and answer on the score sheet. To see the correct answer, scan the QR code.

SENSORY ACTIVITY

In this activity, you will be evaluating what items spark memories. On the table below, you can touch, feel, and pick up the different items to see if any memories pop into your brain. When you are done looking at the items, place a clear pebble into the jar for the item that you closely related to.

MEMORY LOSS

In this activity, you will be putting yourself in the shoes of someone who suffers from memory loss or dementia. Stand in the designated spot on the ground with the clouds hanging from the ceiling completely surrounding your head. Each cloud has a thought of someone who is suffering from dementia. Read each of the clouds and allow your brain to feel foggy and overwhelmed. When you are done, take a booklet to educate yourself on the importance of exercising your brain to help slow down memory loss and dementia.



Design

At the beginning of my design process, I started with the branding of the app. After brainstorming names, I settled on UCARE. This name is a play-off of "you care". It's letting the users know, that they are the ones providing care and this app is to assist them. I started by sketching the name in different typefaces and variations of uppercase and lowercase letters. Then I started adding in logomarks to pair with the typography. My goal was to use the letter U to create a logomark that is friendly and represents community and support.









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Final Logo

This is the logo I settled on. The typeface is Houschka Rounded, demi-bold. I liked this typeface because it is very friendly due to its curved edges and negative space. The large U in the logomark represents the person who is suffering from Alzheimer's or dementia and the little U's surrounding it is the caregivers and support system holding them up. The main color is a very saturated purple because that's the color that represents Alzheimer's and dementia. The secondary color is a light blue because it represents health and healing and peacefulness. The third color is a light purple because it is calming and pairs well with the two other colors.









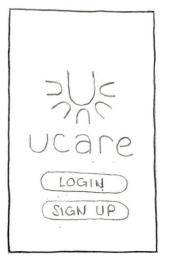


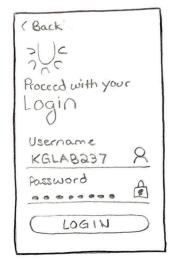
App Sketches

Once the branding was finished, I proceeded with determining what content my app was going to contain. I knew I wanted the users to be able to create a personal account so their information would be protected and personalized for them. I wanted to incorporate a calendar for users to create daily schedules, have a section for relevant information to caring for someone with Alzheimer's or dementia, a section for connecting with close family and friends, and a place for caregivers to focus on their own mental health.

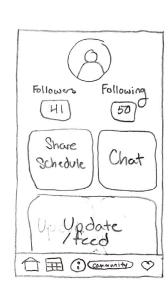
I stared my sketches by designing the welcoming page where the user can either login or create a new account. When the user selects one of the options, it will take them to a new page where they can put in the

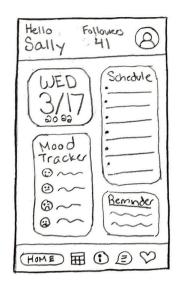
required information. Once they login, it takes them to the homepage where it highlights the date, a motivational quote of the day, and what is currently planned on the schedule. The next page is the calendar/ daily schedule where the user can add events for the person who they are caring for. The next page is helpful information where the user has easy access to questions that they may have and links for more in-depth information. The next page is the social part of the app where the user can connect with close family and friends, have private conversations, share the schedule, and post pictures and updates. The last page is an area for the user to keep track of their mood from day to day and make self-care a priority every day so they can have good mental health in-order to care for others.

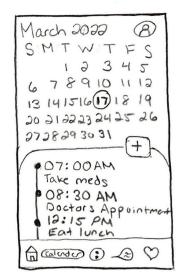






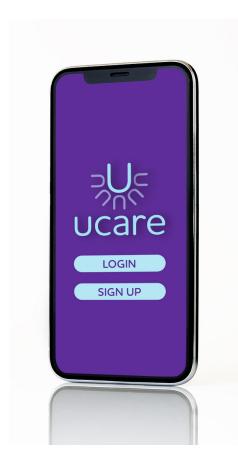




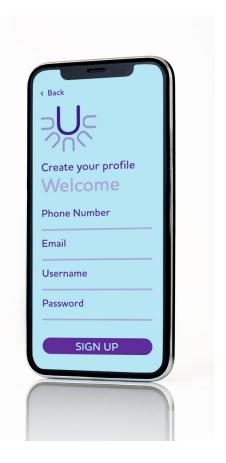




App Design

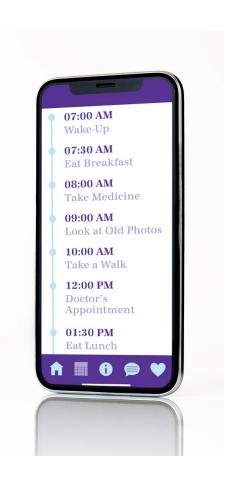
























Final Product

The app design is the main deliverable of my project. However, since I do not know how to code an app, I just created a prototype using Adobe XD. This was a great software that allowed me to design the look for each page. The best part about Adobe XD is that you can simulate it working. This means I was able to make each page connect and if you tapped on a button, it would take you to the corresponding page. Also, it has the function to scroll up or down. I was able to lock items that I wanted fixed in place such as the navigation icons at the bottom. On my phone, the Adobe XD app allowed me to see the prototype of the app as if it really was created.

While I had the protype functioning on my phone, I did not have a way for people to access it on their phone. That is why I produced a motion graphic video that showcased the whole app. I made the video by doing a screen recording of me going through the prototype on my phone. Then using Adobe After Effects, I placed the video on top of a phone mockup to make it look like the real thing. I had this positioned on the right side of the video, while information explaining each part of the app was on the left. The tagline at the end of the video is, "We care, so you can care".

Motion Graphic Video

INTRODUCING



Ucare is an app that is designed to assist family caregivers when caring for a loved one who has Dementia or Alzheimers.



You can create a free account using the sign up page, or login using your existing profile.



The helpful information tab helps teach new family caregivers about Dementia and Alzheimer's.



The profile tab allows for connecting with family and friends to share daily updates and have conversations.



The homepage provides quick updates and a motivational quote of the day.



The calendar allows for daily schedule's to be created and it can be shared with others.



The health tracker is for the caregivers, so they can focus on their own mental health in-order to take care of others.



We care, so you can care.



My Story

The most difficult part of the project was how to make the exhibition space interesting and relatable. When I talked with my professor, she said my motion graphic video was the serious part of the project, so I should have fun with the rest of it. That's when I decided to share my personal story and help people understand why I am so passionate about the topic and want to help make a difference.

I wrote a four-paragraph story that I adhered to an acrylic sheet so I could mount it slightly off the wall to make it stand out and give depth to the space. This slightly overlapped with an image on the wall of my grandparents who the story was about.

Five years ago, I went from not having any relation to dementia and Alzheimer's, to being a caregiver in a nursing home and a caregiver at home. My senior year of high school, I was in a nursing program, where I became a Certified Nursing Assistant and Geriatric Nursing Assistant. During my training, I got to experience what it is like to be a professional caregiver in a dementia unit.

During the same time, my grandfather and grandmother moved in with my parents and I. At this time, my grandfather was in the early stages of Lewy Body Dementia. Over the past five years, I have seen first hand, the daily struggles of caring for a loved one at home. It was hard on the entire family, but my grandmother who was his primary caregiver, was mentally beaten down.

It is not an easy task to see a loved one decline over time. In my grandfather's case, he struggled with losing his independence due to memory loss. He became angry and frustrated when simple tasks became difficult for him to accomplish. He was in both mental and physical pain. Which ultimately, became too much for him to keep going. Nearly one year ago, I lost my strong, hard working, and loving grandfather to suicide.

That is what inspired me to make my capstone about dementia and caregiving. I want to bring awareness, and make an impact. I want to help family caregivers find a support system, stay organized, and focus on their own mental health so they can be the support system that their loved one needs.

- Kelli Garriott

Reflection Sheet

How does this project affect you?

I wanted to have an interactive portion in my project, so I created a mirror that is half clear and half foggy. As people are looking into the mirror at themselves, there a prompt that said, "Reflect on your life while it is still clear". This was meant to make them reflect on their life and cherish their memories because one day, it may become blurry. I also created reflection sheets, for people to write how my project affected or related to them. Since this is a very personal topic, I did not want people's responses to be posted on the wall and be seen by everyone. That is why I created a clear box that they can drop their responses into so no one can read them except for me.

Exhibition Mockup

As I started to develop my exhibition space, I created a digital mockup to visualize it. The space is about 8ft wide and 9ft tall. I used the dark purple color and logo icon for a tall strip of wallpaper to draw attention to the space.

The space was set up so that you read the name of the project first. Then, the viewer starts by reading my story for background on the project. The next part you see is an image of my grandparents which the story is about. Then there is a mirror for people to reflect on their lives and experiences. Then, the video of the app is the last thing you see. After viewers go through the experience, they can write their thoughts on the reflection sheets and put their answers in the box on the wall.





Creation





Exhibition Space





Credit: Jalen Thomas



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In Loving Memory



Robert Cockey

