The University of Texas at Arlington

Department of Computer Science and Engineering

CSE 3311-001: Object Oriented Software Engineering

Fall 2020

Project Inception (Written Deliverable)

[Date: 09-07-2020]

Alzheimer's Study

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GitHub: https://github.com/Hamza-Alwani/CSE3311_Alzheimers

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1. Introduction and Project Overview

Alzheimer's Study is a web application that will be available on all popular web browsers and will be compatible with all operating systems and devices. The web app will help our primary customer (Dr. Kathy Lee and her team) to collect information about the Asian (Chinese and Korean) Americans who are dealing with dementia, specifically Alzheimer. Our users can visit the website and get the services such as getting information about useful resources available in the locality for individuals with Alzheimer, information about what dementia is, contacting research teams, etc. The app will be initially available in three languages (English, Chinese, and Korean).

2. **Customers and users**

The customer of this project is Dr. Kathy Lee, her research team, and the users are people in care of potential individuals with Alzheimer's disease or have the condition itself in the Chinese and/or Korean American community. Dr. Kathy Lee will be providing our group with continuous feedback with the website in order to have accurate translations and core features implemented.

3. Features/Requirements

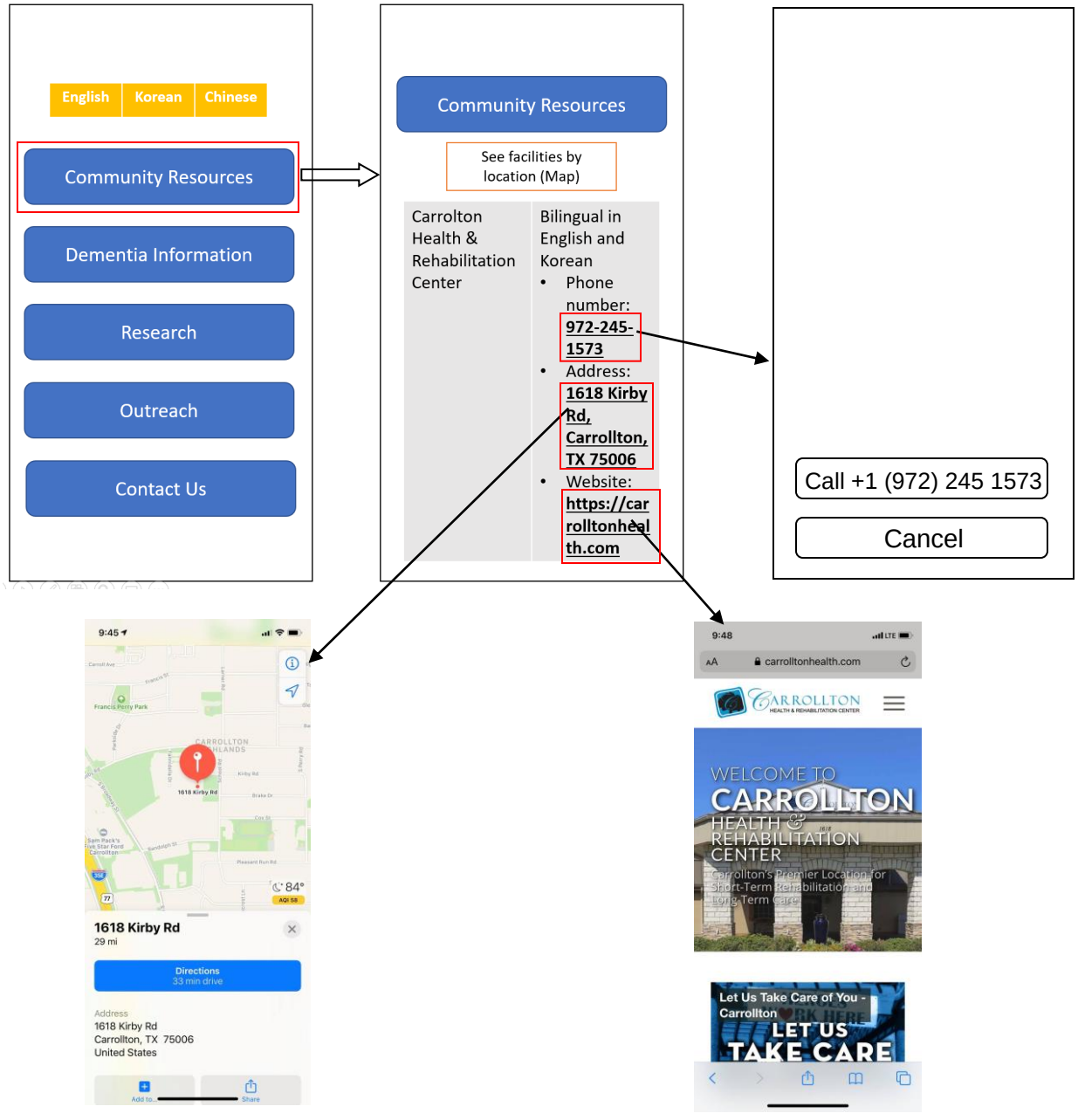
ID	Description
1	Should work on all big web browsers (Google Chrome, Firefox, Safari)
2	Should be viewable on mobile phones (iOS, Android)
3	Should have an admin's page that allows website content to be updated
4	The community resources should allow the user to directly call a facility
5	The community resources should allow the user to click an address which open google maps and shows the location of the facility
6	The community resources should allow the user to click a hyperlink that redirects them to the facility's website.
7	The website should be available in 3 languages (English, Korean, Chinese)
8	Should provide the user with close by facilities (pinpointed on map)
9	The outreach tab should allow the user to download KakaoTalk and We chat and set up chat with customer
11	Should allow users to fill out customer's online survey (https://dementiacaregiving.questionpro.com)
12	Should allow the user to schedule a telephone interview
13	Should allow the users to see all appointments and available times on calendar
14	The "contact us" tab should allow users to send messages to the customer with the user's name, email, and message

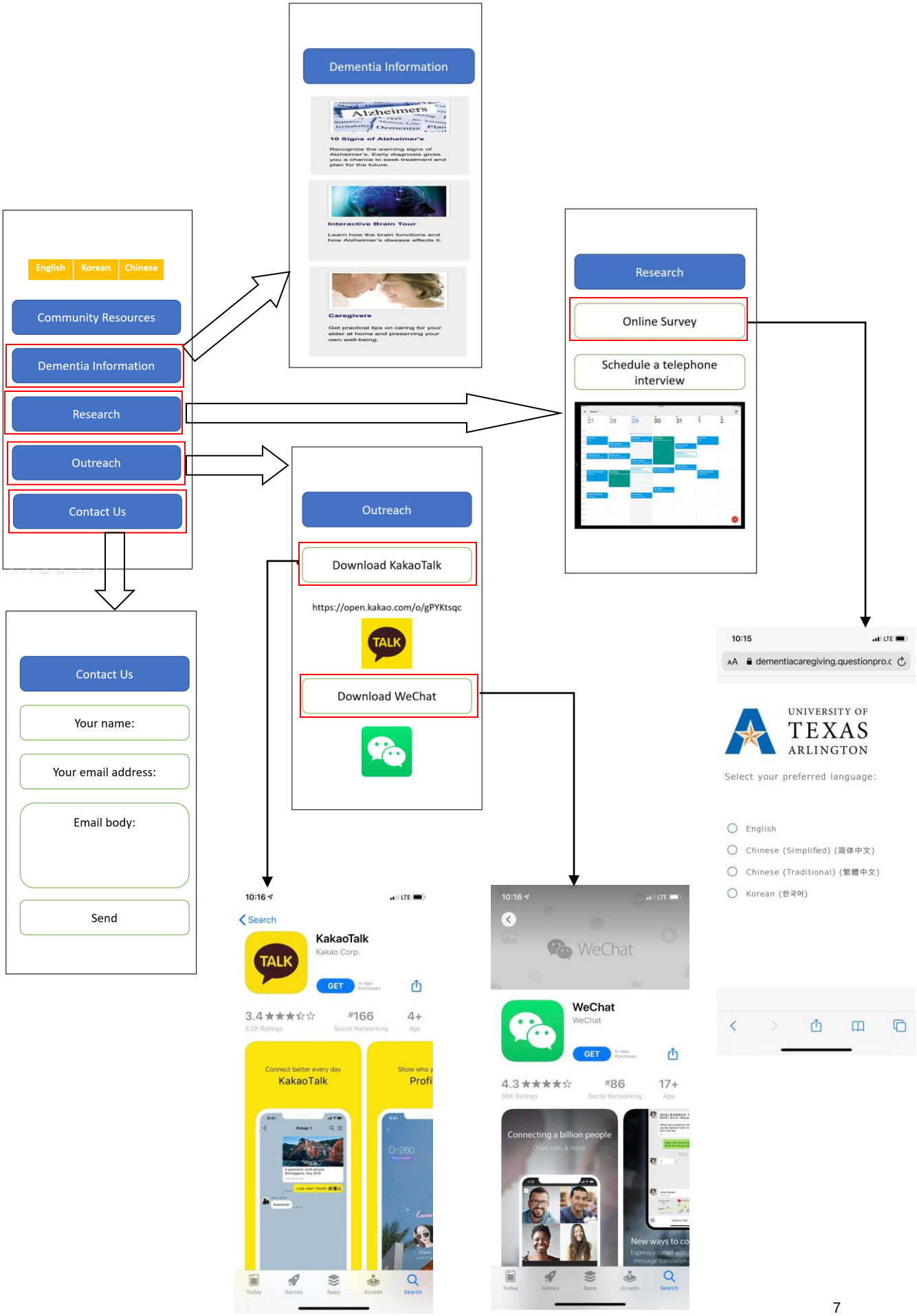
In order to develop this application, we will be utilizing React native, this allows the application to be supported on all popular browsers. The application will also use firebase to store the data. We will also use google docs and google slides to share and collaborate on presentations and documentations. Finally, we will use GitHub to share Code. We chose GitHub due to its capabilities of version control, allowing all of us to work on the same project and merge our work seamlessly.

4. User Interface

The user interface is rather simple. The user begins on a home screen (on the left) This page allows the user to pick their language (English, Korean, Chinese). Along with this they will also be given the choice of being redirected to “community resources”, Dementia information”, “Research”, “outreach” and “Contact us”. Each option will have different functions.

The UI prototype or the screen flow for mobile devices:

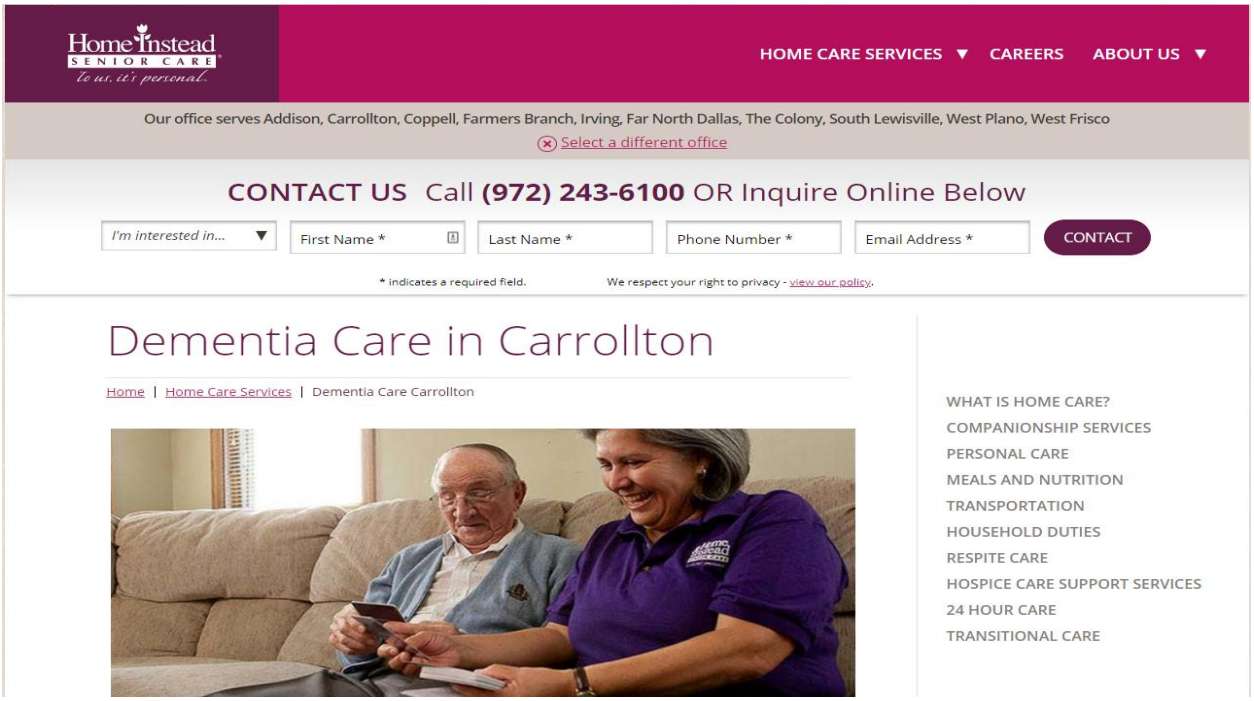



English
Korean
Chinese
Community Resources
Dementia Information
Research
Outreach
Contact Us
Dementia Information
10 Signs of Alzheimer's
Interactive Brain Tour
Caregivers
Research
Online Survey
Schedule a telephone interview
Outreach
Download KakaoTalk
https://open.kakao.com/o/gPYKtsqc
Download WeChat
Contact Us
Your name:
Your email address:
Email body:
Send
10:15
dementiacaregiving.questionpro.c
UNIVERSITY OF TEXAS ARLINGTON
Select your preferred language:
English
Chinese (Simplified) (简体中文)
Chinese (Traditional) (繁體中文)
Korean (한국어)
10:16
Search
KakaoTalk
Kakao Corp.
GET
3.4
#166
Social Networking
4+
Connect better every day
KakaoTalk
10:16
WeChat
WeChat
GET
4.3
#86
Social Networking
17+
Connecting a billion people
Today
Games
Apps
Arcade
Search

5. Competitors

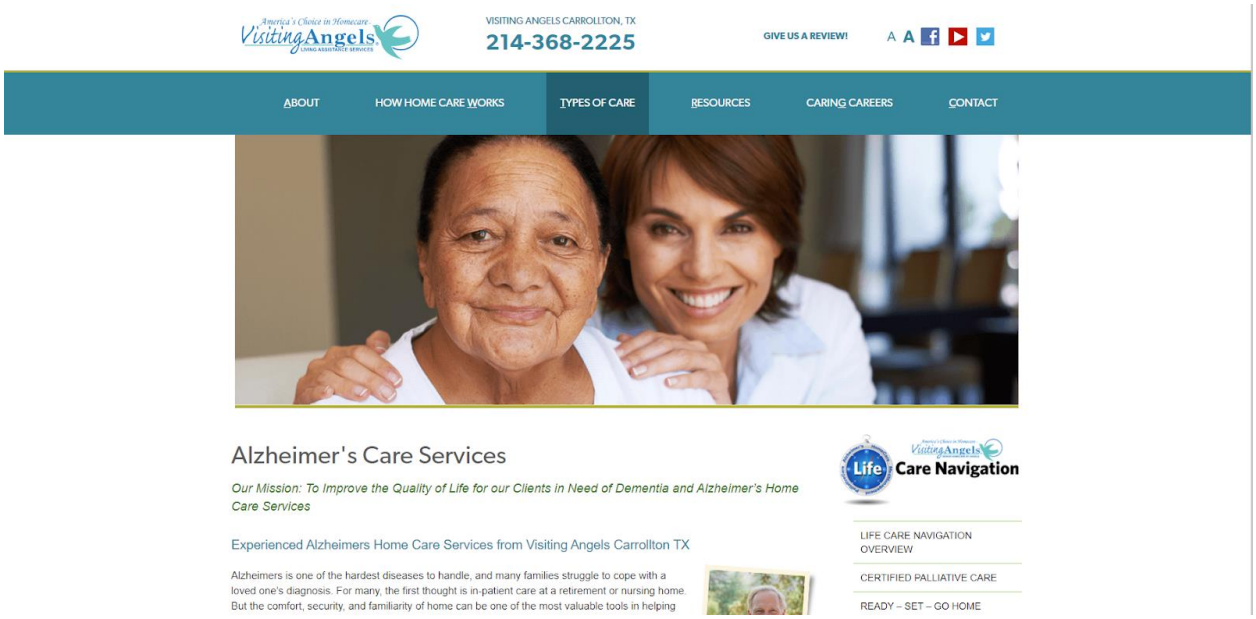
Dr. Kathy Lee is an Alzheimer's specialist located in Carrollton. She has some competitors in her area who are trying to take away her customers. Our competitors are two medical clients located in the area called Home Instead and Visiting Angels. Both have websites that target our user groups (Alzheimer's). Our project will differ from them by focusing on the Asian community rather than being general like they are.

Home Instead -
https://www.homeinstead.ca/407/home-care-services/dementia-care-carrollton



Overview - Looking through google chrome's developer inspection of the website it appears Home Instead uses **Google analytics** to get a competitive edge over users by tracking their interactions. They also have a simple informational app for smartphones. We differ because we focus on the Asian community.

Visiting Angels -
https://www.visitingangels.com/carrollton/alzheimers-services



Overview - Look through their website files, it appears they are using jQuery. They also have professional photos and artwork that our team lacks currently. They have no iOS apps. We differ because we focus on the Asian community.

6. Risk

RE = pR * ER where,

RE - Risk exposure
pR - Probability - chance of it happening
ER - Effect - number of hours

1. **Website not displaying properly on one of the web browsers or phone platforms**

   pR = 95%
   ER = 10 hours
   RE = 95% * 10 hours = 9.5 hours

   When encountering this issue, the developer should first immediately report the bug to the bug thread in the GitHub following the format of listing which browser it is not working on and which component is not displaying correctly. Then the next step is to tackle the bug and if it is not fixed within an hour or two, get the assistance of a teammate.

2. **Accidently allowing a security threat and detecting it**

   pR = 50%
   ER = 10 hours
   RE = 50% * 10 hours = 5 hours

   Report the bug to the bug thread on GitHub. List if it is an application wide security threat or specific to a certain web browser with a small description of the issue. Once the issue is fixed try out the security exploit again in various ways to see if it can be replicated again.

3. **Implementing a feature incorrectly**

   pR = 90%
   ER = 5 hours
   RE = 90% * 5 hours = 4.5 hours

   Discuss with the team and customer during meetings to ensure features are implemented correctly. If not, take notes on what needs to be changed for future work sessions.

4. **Features being changed during development**

   pR = 25%
   ER = 12 hours
   RE = 25% * 12 hours = 3 hours

   Talk to Dr. Kathy Lee (the customer) and discuss if the features are what she likes and change accordingly to her specifications.

7. Software Development Timeline

Task Description	Anticipated End Date	Status
Project Topic Selection	09-03-2020	Completed
System and Requirements Analysis	09-28-2020 (Iteration 1)	In Progress
Inception Document	09-07-2020	Completed
Prototyping/Design	09-28-2020 (Iteration 1)	To be completed (TBC)
Community Resources Tab	10-19-2020 (Iteration 2)	TBC
Dementia Information Tab	10-19-2020 (Iteration 2)	TBC
Research Tab	11-09-2020 (Iteration 3)	TBC
Contact Us Tab	11-09-2020 (Iteration 3)	TBC
Admin Page	11-09-2020 (Iteration 3)	TBC
Test Plan	11-09-2020 (Iteration 3)	TBC
Final Product and Feedbacks	11-30-2020	TBC

References and resources:

- Dr. Kathy Lee's slides, https://uta.instructure.com/courses/57602/files/9491615/download
- Home Instead Senior Care, https://www.homeinstead.com/
- MentalHealth.gov, https://www.mentalhealth.gov/
- Prof. Csallner's class slides, https://uta.instructure.com/files/8438477/download?download_frd=1
- Survey Page, https://dementiacaregiving.questionpro.com/
- Carrollton Health and Rehab, https://dementiacaregiving.questionpro.com/