

MemorEz User Guides

Milestone 4 – Combined Version 1

Combined by James Eble

UMGC SWEN670 – Spring 2022 (From submissions by FlutteringMind and RememberAll)

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Revision History for Combined User Guides

Version	Date	Reason	Approved By
1.0	4/1/2022	Milestone 4	James Eble

Section 1 – Patient Mode

1 Introduction

1.1 Purpose

The purpose of this User Guide document is to provide guidance for the MemorEZ Application. This document will guide users to navigate the application and aid with features, functionality, and troubleshooting.

1.2 Overview

The MemorEZ application has been developed to assist users who are suffering from short term memory loss. The application has been implemented based on all the requirements provided in the beginning of the project by the stakeholders. The requirements list includes core functionalities such as NLU interaction, resource-permission, speech-to-text transcribe, note management, internationalization/multilingual, onboarding, task management, health check, calendar feature, and notifications. Upon completion of development, the DSO team will be responsible for the deployment of the application in App Store for iOS and Google Play for Android. This User Guide is intended for current and future users of the MemorEZ application and will be available online under the CaPPMS website for further guidance for the application to the users.

1.3 Cross Reference Documents

For a better understanding purpose, there have been other documents that have been created by Team FlutteringMind during Milestones 1 and 2 which would be very useful to the reader to go through to cross reference while reading through this documentation. This cross-reference documentations can help guide the readers to more detailed information about a particular topic discussed within the Programmers Guide

The previous documents include the following:

- **Project Plan, Version number 1.3 from March 24, 2022** - The purpose of the project plan is to document a plan to design and build the MemorEZ application that includes a patient mode with a caregiver mode to help assist users suffering from STML and their caregiver.
- **Software Requirements Specification (SRS), Version number 1.2 from March 24, 2022** - The SRS document is intended to describe the requirements, both functional and nonfunctional for release of the MemorEZ Application.

- **Technical Design Document (TDD), Version number 1.1 from March 24, 2022** - TDD provides a comprehensive look at the design and architecture of the MemorEZ application to assist individuals who are suffering from STML.
- **Programmer’s Guide, Version number 1.0 from March 24, 2022** - This document details programming for the implementation and the detailed instructions of implementation of the MemorEZ application including all the tools and development software that the development teams utilized.
- **Deployment & Operation Guide (Runbook), Version number 1.0 from March 24, 2022** - Runbook documentation describes all the steps and instructions in detail that all the team members who were involved as developers, testers, and DevSecOps performed, how they worked on, what they completed, and how they implemented the entire app together as a whole.
- **Test Report, Version number 1.0 from April 1, 2022** - The purpose of this test report is to document the testing strategy and results for the MemorEZ Application. The types of testing completed, items not tested, and results of tested features are also featured in this report. This report can be used as a test guide for the future cohorts on how they can complete their testing in the future and what items they should look out for during their testing.

1.4 References

- Cascella, M., & Khalili, Y. A. (2021). *Short Term Memory Impairment*. Treasure Island, FL: StatPearls Publishing LLC. Retrieved from <https://www.ncbi.nlm.nih.gov/books/NBK545136/>
- Cast your Android audio from the Google home app. (n.d.). In *Chromecast built-in help*. Retrieved from <https://support.google.com/chromecastbuiltin/answer/6279392?hl=en>
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- How to check the storage on your iPhone, iPad, and iPod touch. (n.d.). In *Support Apple*. Retrieved from <https://support.apple.com/en-us/HT201656#:~:text=Use%20your%20device%20to%20check,of%20storage%20each%20one%20uses.>

1.5 Definitions, Acronyms, and Abbreviations

Table 1 shows the most used acronyms/abbreviations and their definitions:

Table 1

Acronyms, Abbreviations, and Definitions

Acronyms and Abbreviations	Definitions
PM	Project Manager
BA	Business Analyst
DSO	DevSecOps
Flutter	Framework for developing cross platform applications
Dart	Programming language used in the Flutter framework
STML	Short Term Memory Loss
UX	User Experience
UI	User Interface
NLP	Natural Language Processing
NLU	Natural Language Understanding
OS	Operating System
LEO	UMGC online platform class
iOS	iPhone operating system
Flutter CLI	Flutter Command-line tool
API	Application Program Interface
TTS	Text to Speech
AVD	Android Virtual Device
UMGC	University of Maryland Global Campus
VM	Virtual Machine
AWS	Amazon Web Services
HTML	HyperText Markup Language
XML	Extensible Markup Language

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SDK	Software Development Kit
IDE	Integrated Development Environment

2 Software Description

The MemorEZ application was developed to assist people with STM with daily notetaking, tasks, and reminders for various events. The impairment of short-term memory involves forgetting information to which the subject has been recently exposed (Cascella & Khalili, 2021). The MemorEZ application is intended to help users by supporting them on keeping notes and reminders utilizing speech/voice recognition by leveraging the mobile phone capabilities and external services. Onboarding is provided to the user the first time the application is accessed to provide guidance for the MemorEZ application's features and functionalities.

2.1 Features

2.1.1 Simplicity

The MemorEZ application is easy to navigate and keeps users engaged. Clear, uncluttered screens, without ambiguity that leads to an easier and improved user experience.

2.1.2 Android Device Support

The MemorEZ application is a multi-platform application, and it is compatible with Android devices.

2.1.3 iOS Device Support

The MemorEZ application is a multi-platform application, and it is compatible with both iOS devices.

2.1.4 NLU Interaction

The MemorEZ application integrates with an amazon Lex Natural Language Understanding system.

2.1.5 Notification

The MemorEZ application provides the user relevant and personalized notifications.

2.1.6 Internationalization

The MemorEZ application supports multiple languages out of the box and may be extended to add more support later.

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2.1.7 Speech-To-Text Transcribe

The MemorEZ application can transcribe user voice to text in multiple languages.

2.1.8 Note Management

The MemorEZ application provides users the ability to create, delete, edit, and search notes.

3 Software & Hardware Specifications

The application MemorEZ is currently available for mobile devices that are smartphones. These smartphones must have the ability to access the Google Play store, or the Apple App Store. In order to run the application MemorEZ, the user's development environment must have these minimum software requirements:

- Android OS version: 11.0
- iOS version: 15.0

4 Application Page

4.1 Onboarding Screen

As the user opens the MemorEZ app, onboarding starts with selecting the language. After selecting the language, the user can proceed to the next screen by selecting the “NEXT” button. Users can change the language by selecting their language of preference from the drop-down menu. If the caregiver declines the permission to access, the caregiver will see the warning message “features will be limited without allowing access to your microphone”. Once the caregiver allows the microphone and clicks the ‘NEXT’ button, the caregiver shall be able to use the microphone. When the user selects “YES,” and clicks the next button to proceed to the next screen, a window will appear asking the user to allow/deny access to record audio. When user selects Next, window will appear asking the user to allow/deny access to take pictures and record video. Once a caregiver registered successfully, an introduction screen with editable profile details will be displayed. Once the user selected the “NEXT” button, an introduction walkthrough video shall be displayed. When users click the “NEXT” button, they will be navigated to the Menu screen.

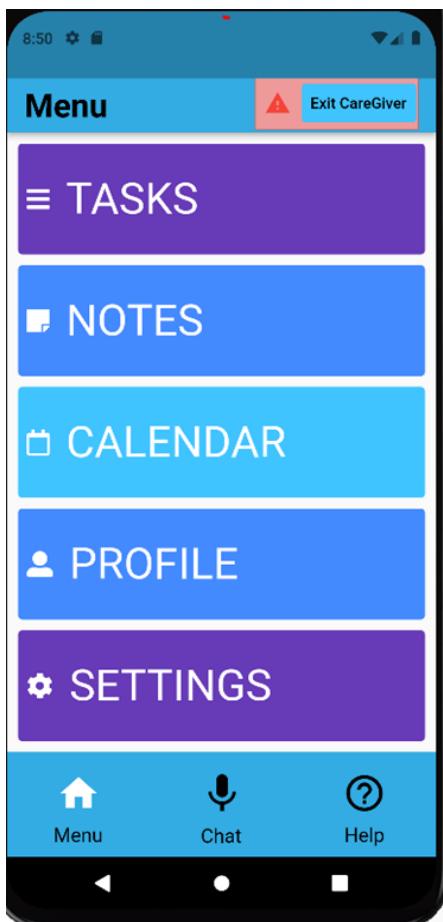
Figure 7: Menu Screen



4.2 Menu Screen

In Figure 8, the Menu Screen shall display a scrollable list of features as enabled in the caregiver mode. Features that can be enabled by the caregiver to appear in the patient mode of the application are Tasks, Notes, Calendar, Profile, and Settings. Each feature button navigates the user to a separate screen once selected. Features disabled by the caregiver shall not appear on the Menu Screen for the user in patient mode.

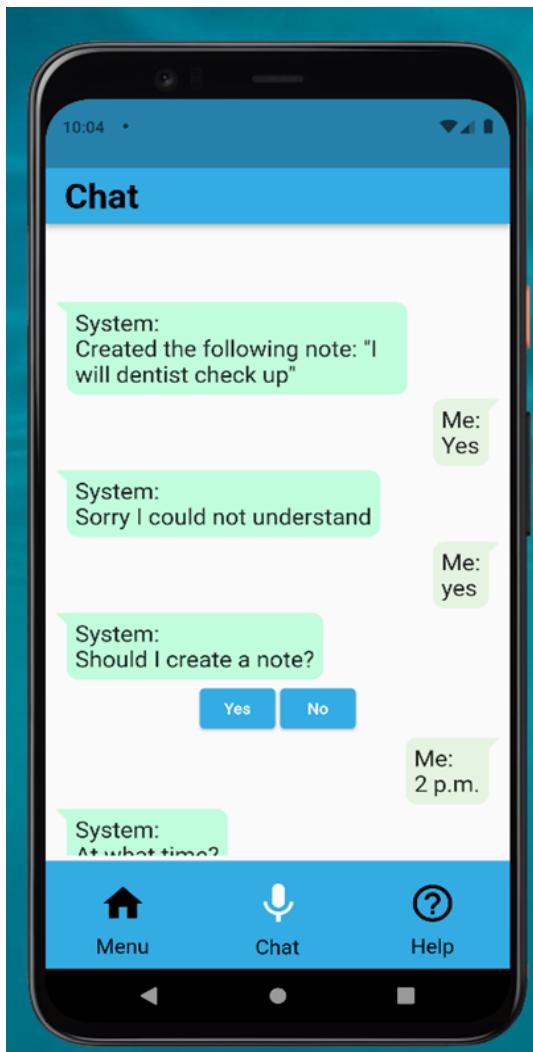
Figure 8: Menu Screen



4.3 Chat Screen

In Figure 9, the Chat Screen shall allow the user to interact with the System AI. Selecting the Chat Screen feature shall activate listening (voice) mode and turn on the device microphone. The AI shall be set to identify and listen to the user's voice, ignoring background audio. The user shall be able to create notes and reminders from the Chat Screen, as well as ask a question and receive a response. The Chat Screen shall display the dialogue between the user and the System AI.

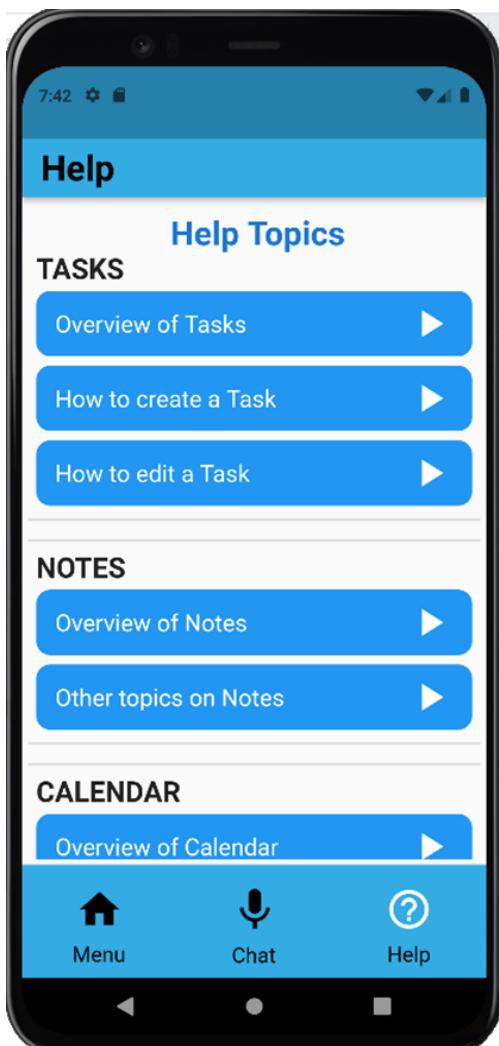
Figure 9: Chat Screen



4.4 Help Screen

In Figure 10, the Help Screen shall display a list of questions and answers on how to use the MemorEZ application.

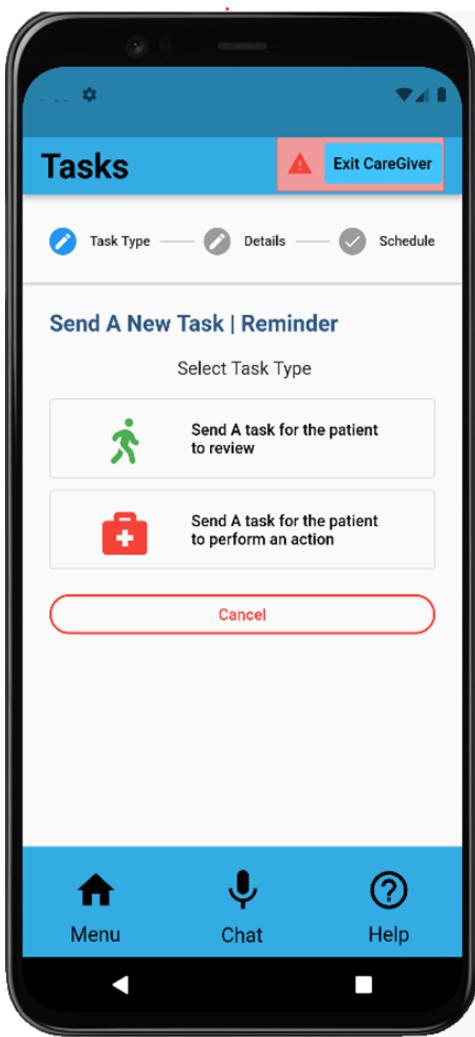
Figure 10: Help Screen



4.5 Task List Screen

The Task List Screen shall display a list of tasks for the user to complete as assigned from the caregiver mode, a list of completed tasks, and a search bar. The search bar shall allow the user to locate a task using keywords. Tasks that are assigned by the caregiver to the user that have not been completed shall be displayed under the Active Tasks header. Tasks that have been marked as completed by the user shall be displayed under the Completed Tasks header. Completed tasks shall display the date and time that the user marked the task as completed. The Task List screen shall allow the user to select a task to view additional details of the task.

Figure 11: Task Screen



4.6 Complete a Task Screen

After the user has selected an Active Task from the task screen, the user is navigated to a screen showing details of the selected task. A description of the task, the type of task, and instructions for the user are displayed. The screen shall allow the user to respond to the task and include options for the user to respond based on the type of task assigned. Figure 11 displays an activity task, which shall allow the user to respond to the task with a written response in the text field and/or the option to take a picture. Figure 8 displays a mood task, which shall allow the user to respond to the task by selecting an icon. The application shall prompt the user for additional details of their mood if the Okay or Bad mood icons are selected as seen in Figure 12. Once the preconditions for the activity task have been met (i.e. take a picture, select a mood), the application shall allow the user to select the MARK COMPLETE button to send an SMS text message on the device to the contact designated in the caregiver mode. The screen shall allow the user to save the task to complete later if the user selects the BACK TO TASKS button.

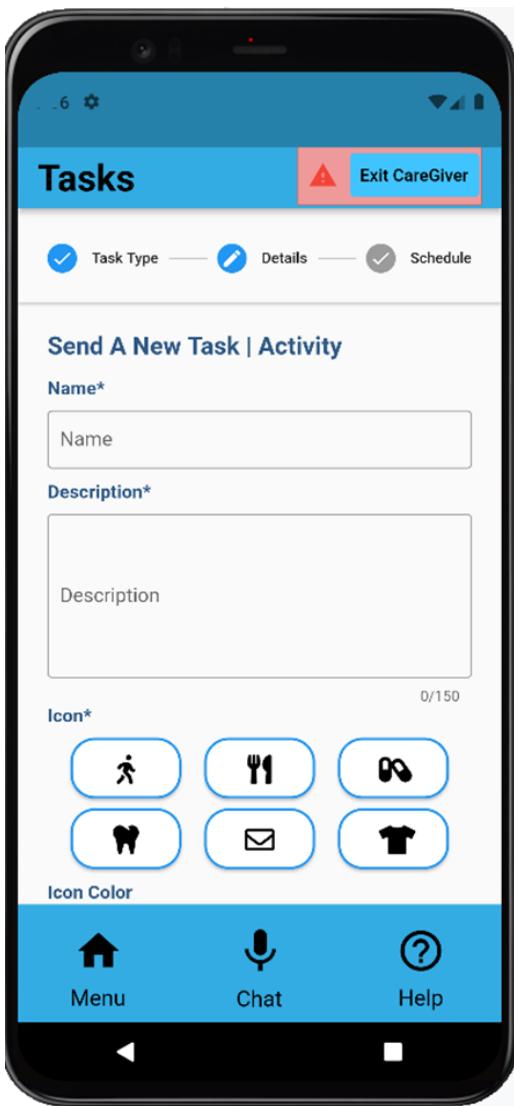
Figure 12: Activity Task Screen

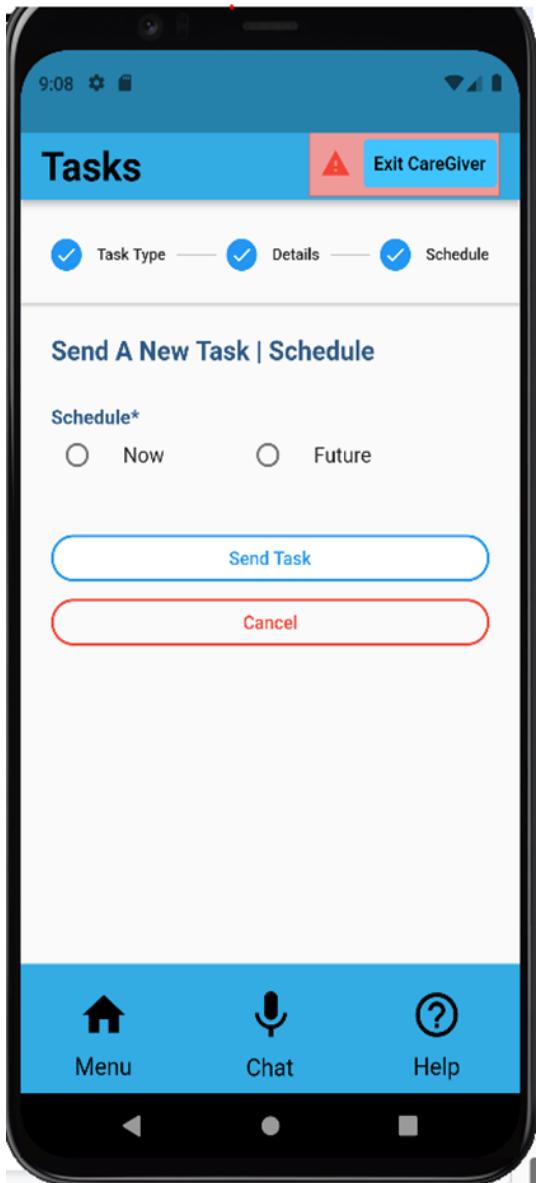
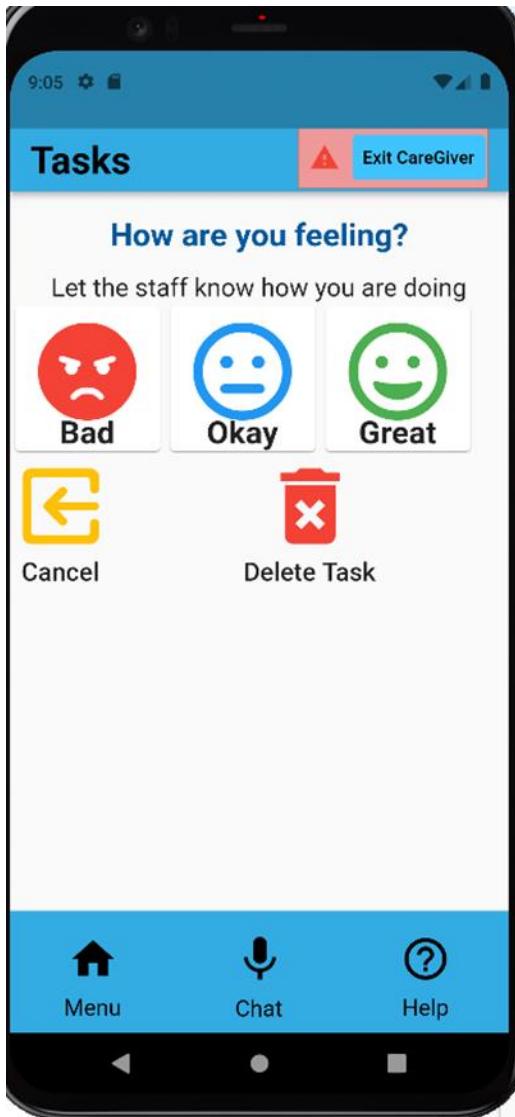
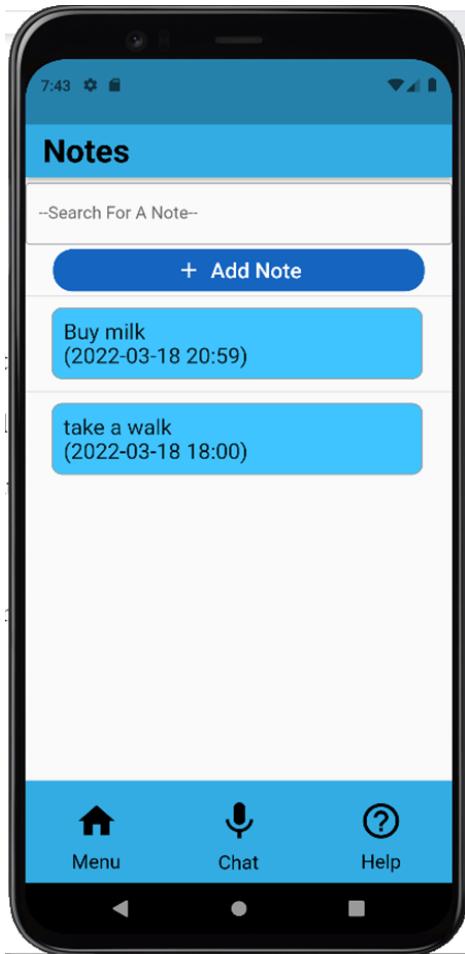
Figure 13: Mood Task Initial Screen

Figure 14: Mood Task Additional Details Screen

4.7 Note Screen

Figure 15 displays the note screen. If enabled, the Note Screen shall display a list of saved notes, a search bar, a button to navigate to the Create a New Note screen, and a button to allow the user to navigate to the Delete Notes Screen. The search bar shall allow the user to search for a note using keywords.

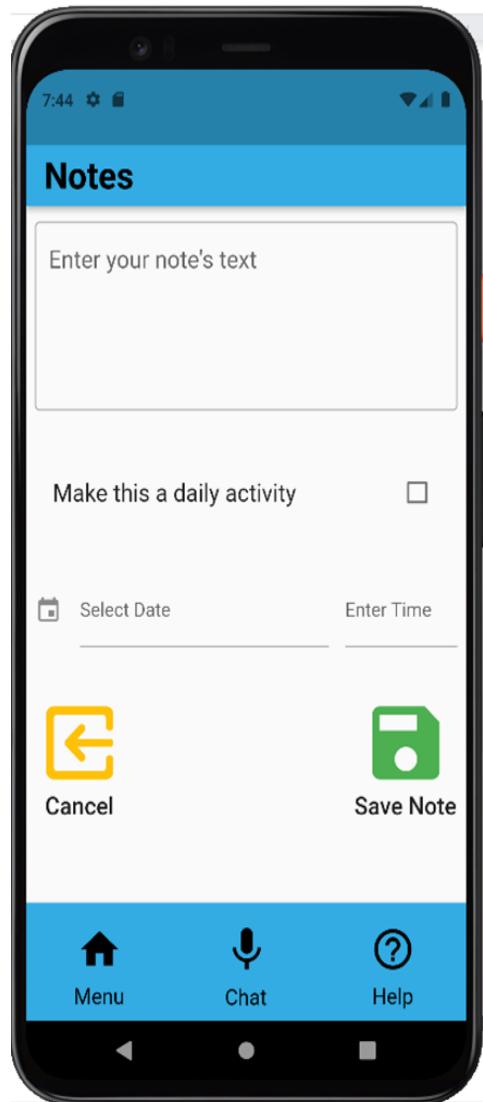
Figure 15: Notes Screen



4.8 Create a New Note Screen

In Figure 16, the Create a New Note screen is displayed. If enabled, the screen shall allow the user to enter details for a new note using text or speech-to-text and allow the user to input a calendar date and time if they would like to be reminded of the note at a future time. The user shall also have the option to send a reminder notification for the note. The user can select the SAVE NOTE button to save the note or the BACK TO NOTES button to navigate to the Notes Screen.

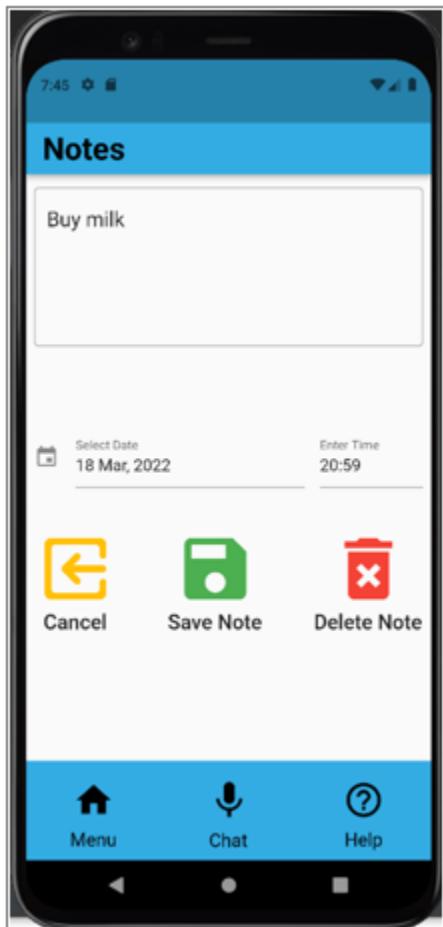
Figure 16: Create New Note Screen



4.9 View and Edit Notes Screen

Figure 17 displays the View Note screen. If enabled, the user can select a note from the Notes screen to view and edit the note. The user shall be allowed to edit the note text, change the date and/or time of the note, and allow for a reminder notification to be sent. The user can select the SAVE NOTE button to save changes to the note, the BACK TO NOTES button to discard changes and return to the note screen, or the REMOVE NOTE button to delete the note and remove it from the notes screen.

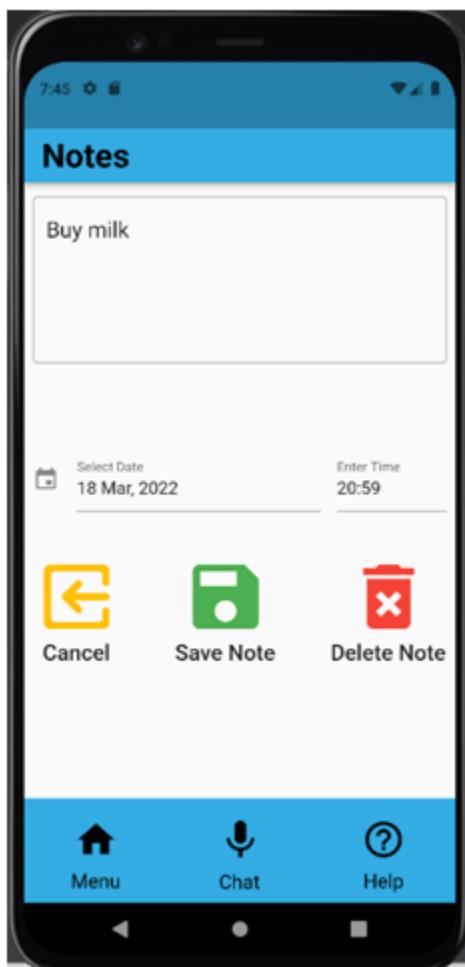
Figure 17: View and Edit Notes Screen



4.10 Delete Notes Screen

Figure 18 displays the Delete Notes Screen. The screen shall allow the user to select checkboxes corresponding to the note(s) that they wish to delete and select the DELETE SELECTED NOTES button to delete the note(s). The screen shall display a popup message prompting the user to confirm deletion of the selected notes; the user can select to confirm and delete the notes by selecting the YES button or select the NO button to return to the Delete Notes screen. The user can select the BACK TO NOTES button to return to the Notes Screen without making changes.

Figure 18: Delete Notes Screen



4.11 Profile Screen

Figures 19 and 20 depict the Profile Screen. If the Profile feature is enabled, the Profile Screen shall display information about the user as added by the caregiver. The Profile Screen shall display the text and images as entered by the caregiver in a scrollable list divided into sections which may include About Me, Contacts, Care Team, Medical History, Medications, Allergies, and Transportation preferences. The screen shall display a search bar to allow the user to search for information using keywords.

Figure 19: Profile Standard Data Screen

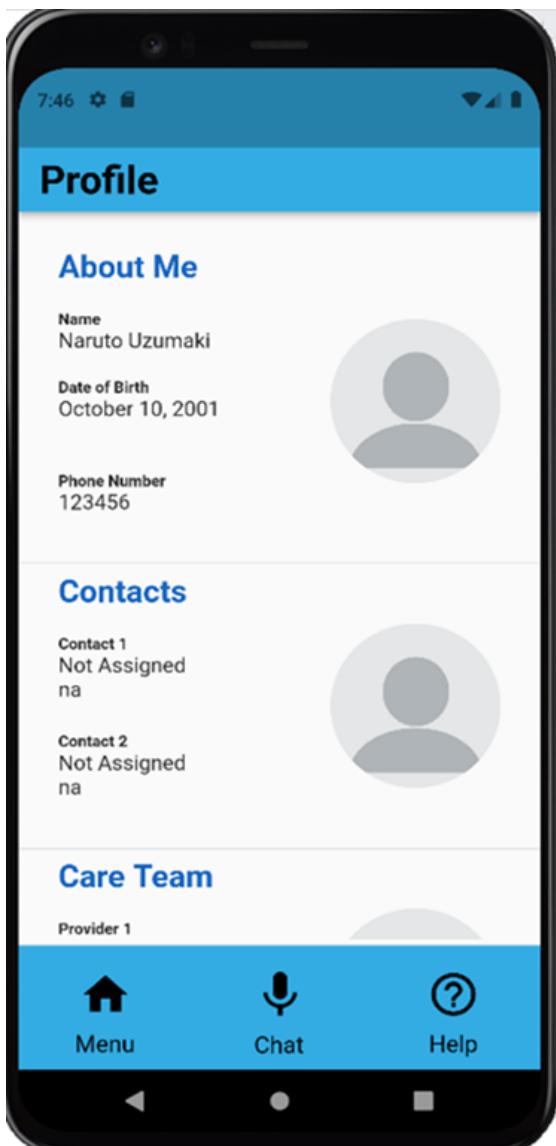
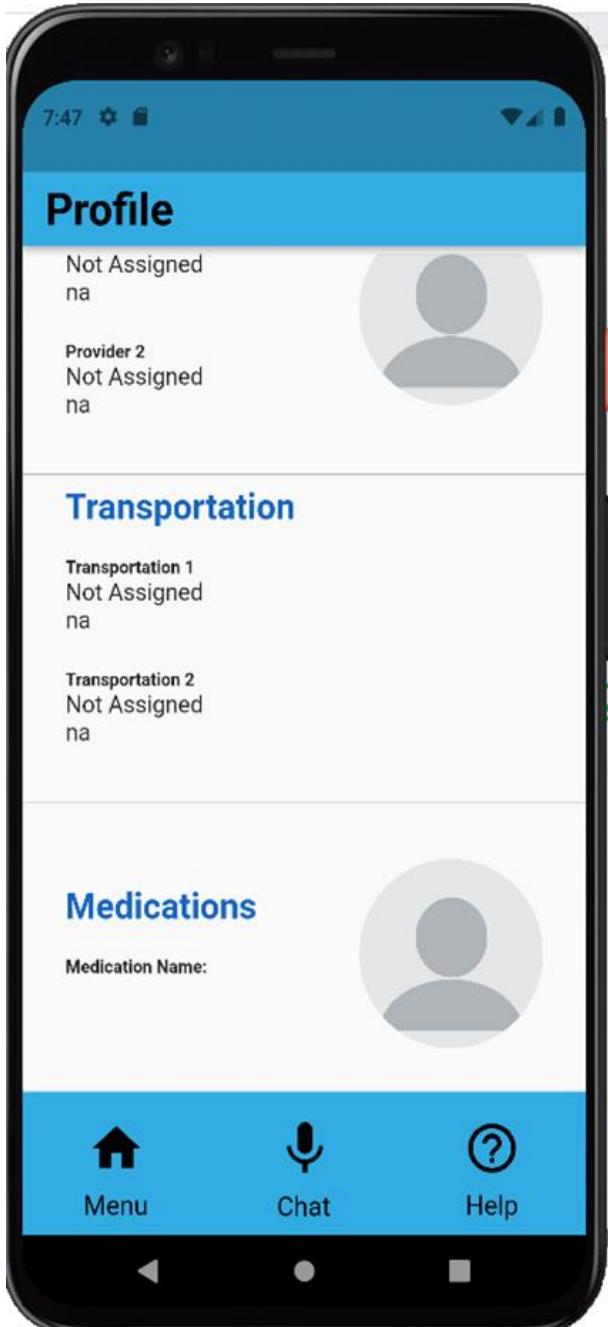
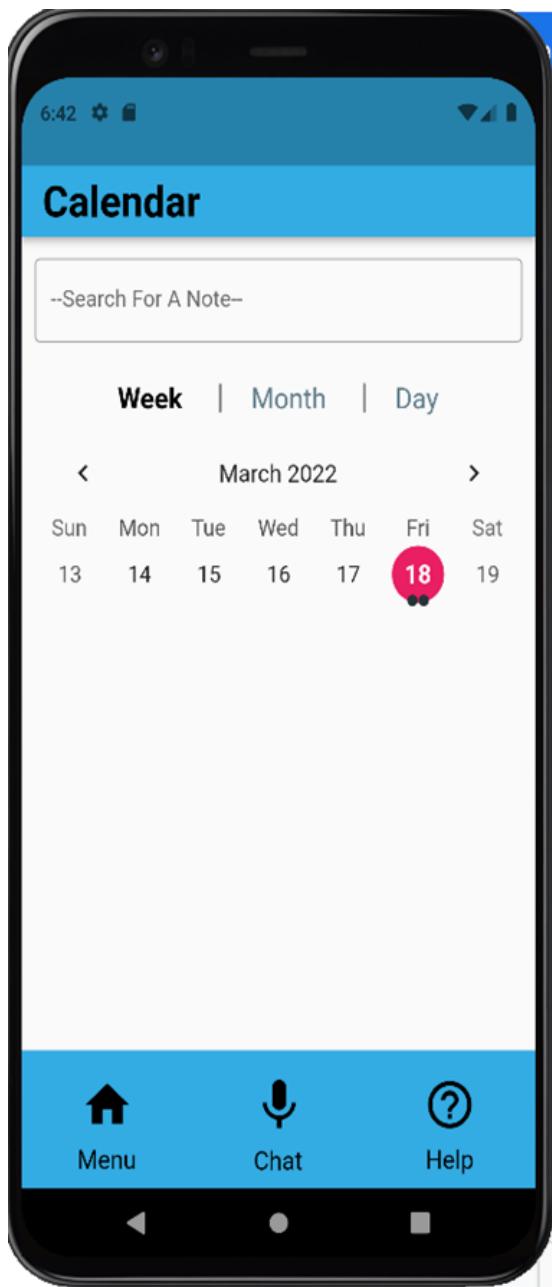


Figure 20: Profile Dynamic Data Screen

4.12 Calendar Screen

Figure 21 is the Calendar Screen. If enabled, the Calendar Screen shall display tasks, notes, and reminders for the selected date. The screen shall display a search bar that shall allow the user to search for information using keywords. The screen shall also allow the user to toggle the calendar view by selecting the Week, Month, or Day options below the search bar.

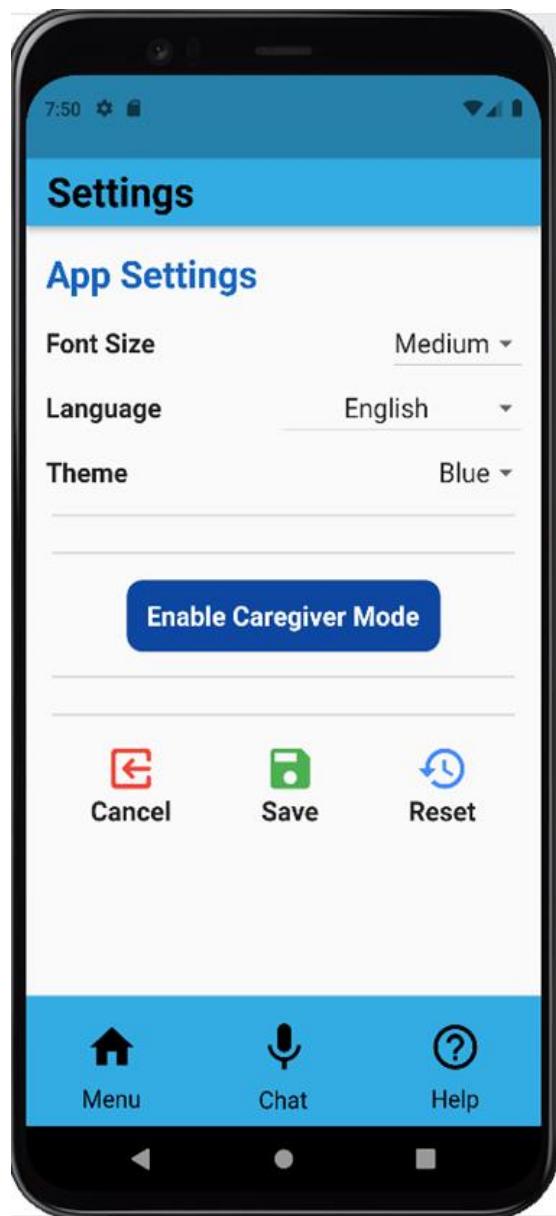
Figure 21: Calendar Screen



4.13 Settings Screen

Figure 22 displays the Settings Screen. The Settings screen shall allow the user to view the application settings as defined in the caregiver mode of the MemorEZ application. The screen shall allow the user to view settings for Notes, Tasks, and Trigger words. The screen shall display a Enable Caregiver Mode button that shall allow the user to enter credentials to access the caregiver mode of the application where settings can be changed, and additional application features accessed.

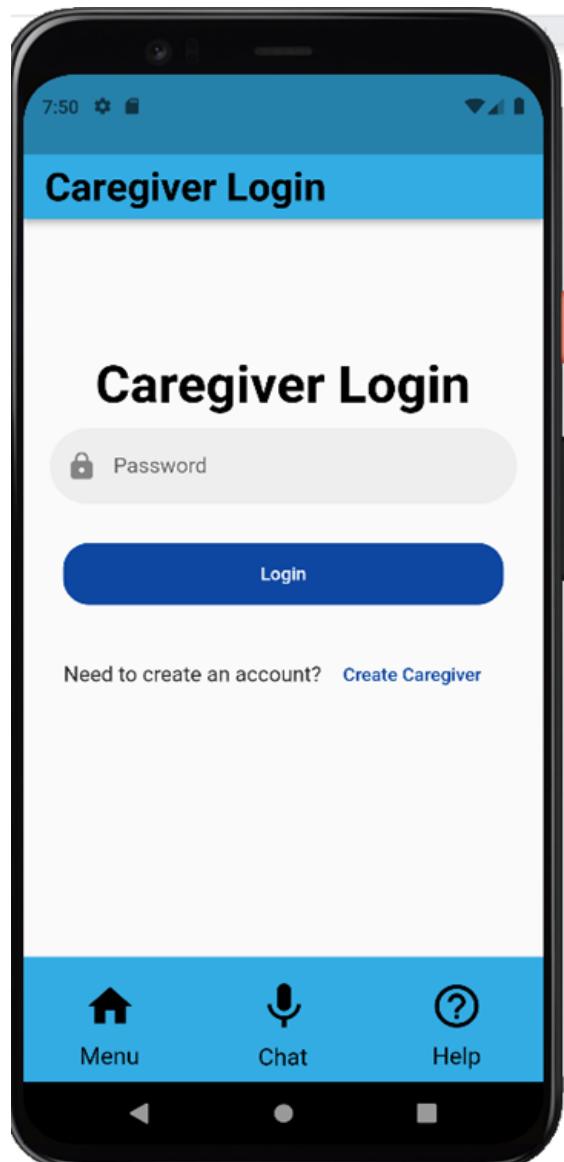
Figure 22: Settings Screen



4.14 Enable Caregiver Mode Screen

Figure 23 displays the Enable Caregiver Mode screen which is displayed if the user selects the Caregiver Mode button from the Settings Screen. The Enable Caregiver Mode screen shall prompt the user to enter a passcode to enable the caregiver mode of the MemorEZ application. Once the password has been entered, the user can select the SUBMIT button and the application will authenticate the password. The user shall have the option to select the CANCEL button to return to the Settings Screen. The user shall not be able to access the caregiver mode of the application without authenticating the password.

Figure 23: Enable Caregiver Mode Screen



5 Troubleshooting

5.1 Help with MemorEZ App

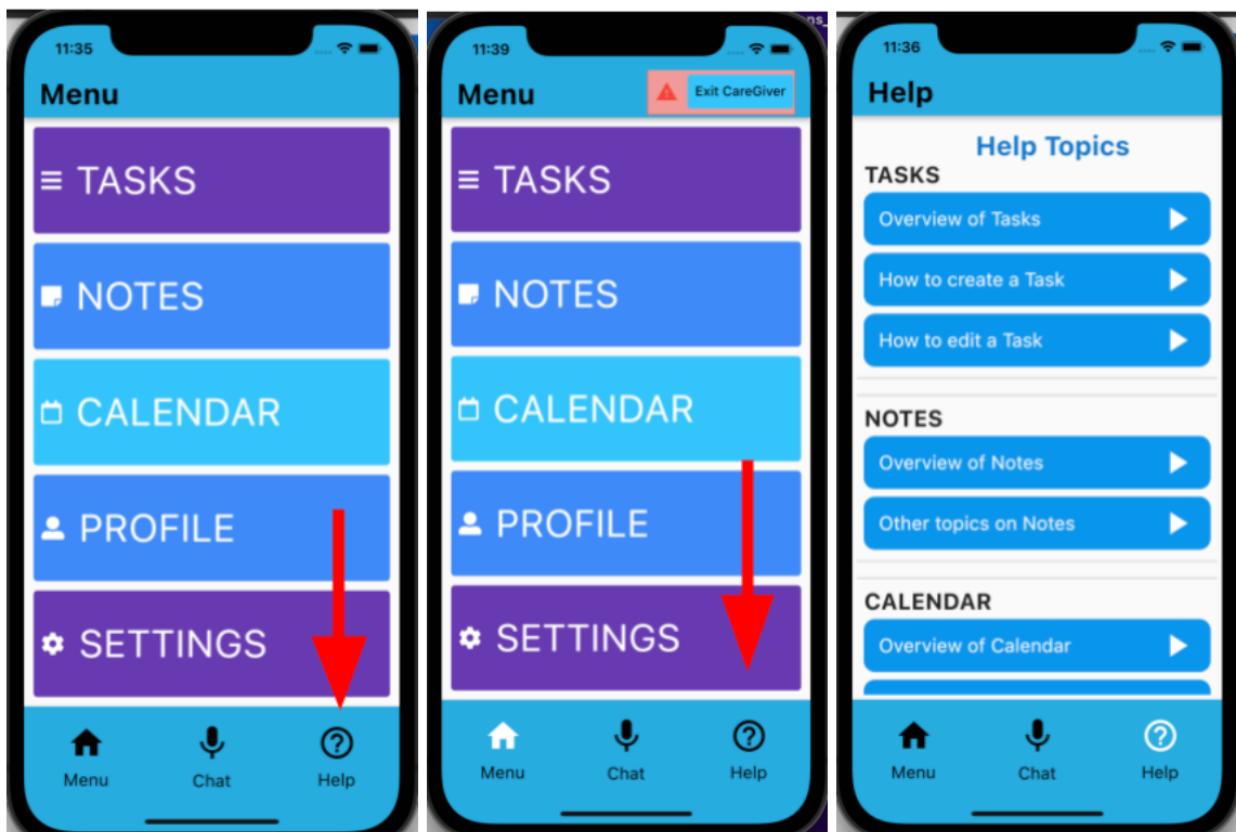
If the user is in need of assistance while using the MemorEZ Application, please visit the Help section of the application. This can be found in both patient and caregiver modes. This section will assist in the guidance on how different features in the application work, and how to use them. In order to open the Help sections, please follow the steps below, as well as the pictures for assistance.

1. Open the MemorEZ Application
2. Click on the Help button on the bottom right-hand corner of your screen
3. Scroll to and select the section in which you need assistance on

*Note that some features of the Help section are currently under development and more help videos will be added sometime in the future. *

Figure 34

MemorEZ Help Section



5.2 Application is Not Recording

5.2.1 Android

If microphone access is an issue, and microphone access needs to be obtained, please follow the following steps to enable microphone access:

1. On the device: go to Settings, scroll to Privacy, select App permissions then select Microphone.
2. Find the MemorEZ application, toggle the switch to the right (the switch should turn green).

*Note that if the switch turns to green, the microphone is enabled. When the switch is turned gray, the microphone is disabled. *

5.2.2 iOS

If microphone access is an issue, and microphone access needs to be obtained, please follow the following steps to enable microphone access:

1. On the device: go to Settings, scroll to Privacy, then select Microphone.
2. Find the MemorEZ application, toggle the switch to the right (the switch should turn green).

*Note that if the switch turns to green, the microphone is enabled. When the switch is turned gray, the microphone is disabled. *

5.3 Application Stops Responding/Closes Unexpectedly/Will not Open

5.3.1 Android

“Force stop” the Memory Magic App:

1. On the device: go to Settings > Apps > select Memory Magic App
2. Tap on the Memory Magic App > tap on ‘Force stop’.

5.3.2 iOS

If your application is frozen, “Force stop” of the MemorEZ application should be performed. If a “Force Stop” is needed, the following should be performed:

1. Go to the Home Screen of your iPhone, and swipe your finger up from the bottom of the screen to the middle of the screen, then let go.
2. Swipe left or right to find the MemorEZ Application.
3. Press and hold the application screen, then swipe it up to “Force Stop” the application.

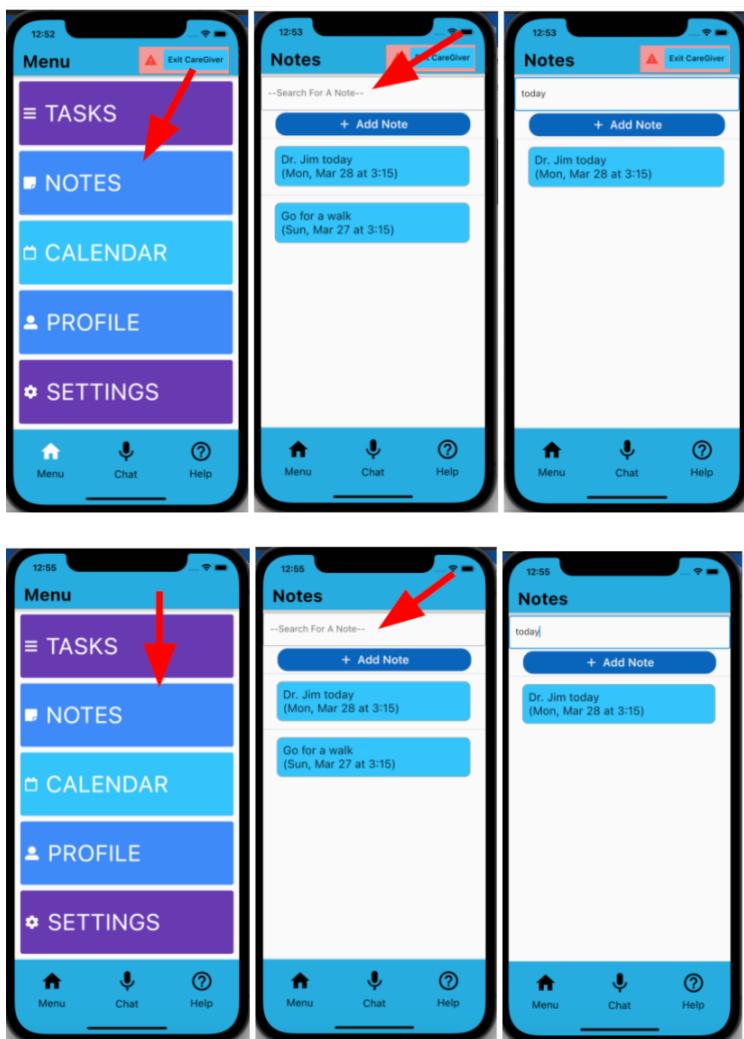
5.4 User Cannot Find a Specific Note

If the user is having difficulties locating a note, the search function in MemorEZ is an easy solution to assist them in finding the note. This can be done in caregiver, or patient mode. Figure 35 assists in the process of finding a note.

1. From the Main Menu, select the “Notes” button
2. Select the “Search for a note” bar
3. Begin typing in a keyword, and the search function will begin to narrow your search until you find your specific note.

Figure 35

Search Bar



5.5 Application is Not Saving Notes

5.5.1 Android

In order to check storage for the MemorEZ Application, the following steps should be followed:

1. On the Android device, go to Settings, scroll down to system, select storage then select device storage.
2. After the detail view loads, scroll to the app and either:
 - Offload the app, which will free up storage used by the application, but keeps its data and documents.
 - OR delete the application, which removes the app and all of its related data.

5.5.2 iOS

In order to check storage for the MemorEZ Application, the following steps should be followed:

1. On the iPhone device, go to Settings, General, then scroll to iPhone Storage.
2. After the detail view loads, scroll to the app and either:
 - Offload the app, which will free up storage used by the application, but keeps its data and documents.
 - OR delete the application, which removes the app and all its related data.

6 Appendices

6.1 Credits

Below are the members that contributed or will contribute to the development of this application:

The following members contributed to the development of this software:

- Dr. Mir Mohammed Assadullah (Product Owner, Stakeholder)
- Dr. Andrea Evangelista (Subject Matter Expert)
- Roy Gordon (Mentor)
- James Eble
- Brian Avadikian
- Selina Zaman
- Lizset Chavez Chacaltana
- Robert Edwards
- Joshua Fischer
- Joseph Jewell
- Sean LaMonica
- Andrew Nicolette
- Anusha Ramanan
- Yusufu Sanu
- Vivek Singh
- Vanessa Stringer
- Daryle Urrea
- Johnnie Webb
- Eyob Woldehana
- Robert Wren

6.2 Credits to Previous Cohorts

Johnny Lockhart, Jeroen Soeurt, Michelle Monfort, Robert Wilson, Ayodeji Famudehin, Chauntika Broggin, Christian Ahmed, Mitchell Olshansky, Mod Drammeh, Nicholas Ballo, Shawn Kelly, Raul Benavides, Maddison Dunning, Alec Baileys, Benjamin Cushing, Elshaday Mesfin, Tyler Puschinsky, Michael Le, Debashis Jena, Austin Johnson, Prince Antwi Aboagye, Didimus Kimbi, Damion Sevilla, Rebecca Johnson, Addisu Worku, Matthew Setiawan, Obinna Okonkwo, Andrew Rohn, Joseph Kalfus, Firehiwot Chari, Eskedar Endashw, Malik Webster, Leela Subramanian, Presley Muwan, Christian Cruz Jimenez, Daniel Avery, Karen Crumb, Kevin Bell, Sami Salim, Teresa Balbi, Endalkachew Girma

Section 2 – Caregiver Mode

1 Introduction

1.1 Purpose

This user guide is a reference for Short-Term Memory Loss (STML) caregivers using the MemorEz App. STML users who own and can manage phone will be primarily benefited from this app (Cascella & Khalili, 2021). This guide will assist caregivers in navigating the application and exploring the app features, functionalities, and troubleshooting tools.

1.2 Overview

MemorEZ app is developed and implemented based on stakeholders' and product owner requirements to enhance the features and functionalities of the previously created "Memory Magic" app (Memory Magic, 2021). To address the requirements, the Spring Semester SWEN 2022 students worked as two teams, RememberAll and FlutteringMind. For development purposes, the two teams worked together; however, RememberAll's documentations focus on the application's caregiver mode. As a result, this user guide mainly focuses on the caregiver part of the app. Upon completing the app development, the DSO team deploys the application on the iOS App Store and the Google Play app store. This User Guide is intended for current and future users of the MemorEz App and will be available online for further guidance of the MemoryEz App.

1.3 References

- Cascella, M., & Khalili, Y. A. (2021). *Short Term Memory Impairment*. Treasure Island, FL: StatPearls Publishing LLC. Retrieved from <https://www.ncbi.nlm.nih.gov/books/NBK545136/>
- MemorEZ, Spring Semester (2022). Retrieved from [umgc/spring2022: Spring 2022 SWEN 670 Cohort \(github.com\)](#) Previous Projects, Memory Magic, SWEN, Fall Semester (2021). Retrieved from [CaPPMS \(umgc-cappms.azurewebsites.net\)](#)
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1.4 Definitions, Acronyms, and Abbreviations

Table 1 shows the most used acronyms/abbreviations and their definitions:

Table 1

Acronyms, Abbreviations, and Definitions

Acronyms and Abbreviations	Definitions
APP	Application
CRUD	Create, Read, Update, Delete
DSO	DevSecOps
IDE	Integrated Development Environment
iOS	iPhone Operating System
NLU	Natural Language Understanding
OS	Operating System
STML	Short Term Memory Loss
UI	User Interface
UMGC	University of Maryland Global Campus

2 App Description

MemorEz App is developed to assist STML users with daily activities, varying from simple activities such as sending a reminder to move, eat and drink to doctor appointments and exercises. In addition, the app provides a service to caregivers to follow up on the STML user activities remotely and effectively. Caregivers need to register on the app and create a password to access the STML user's profile, tasks, calendar, notes, and settings displayed as a menu. Only after the caregiver logs in successfully is the caregiver able to see the home page menu.

The app has a help section that guides caregivers on how to use the app step by step. For example, caregivers can change the app setting for notifications and tasks on how often the app should send notifications to the STML user. The help section at the bottom of the page is viewable from all the activities pages selected from the home menu at any time to guide the caregivers in case they need assistance navigating the app.

2.1 Features

2.1.1 Simplicity

The MemorEz app UI is intended to be user-friendly and easily navigable. The app was developed with an intention to encourage STML users and their caregivers to use the app regularly. Therefore, caregivers shall find the menus for different features and functionalities when they log in for easy access. The menu for different activities is placed on the home/Menu page of the app highlighted with different colors. By clicking each tab of the menu, they will be directed to the activities of their choice.

2.1.2 Device Support

The MemorEz App is a multi-platform application, and it is compatible with mobile Android OS and iOS.

2.1.3 NLU Interaction

The MemorEz App integrates with an amazon Lex Natural Language Understanding system.

2.1.4 Notification

The MemorEz App allows caregivers to schedule current and future reminder of task notifications.

2.1.5 Multi-Language

The MemorEz App supports a total of five languages with the default setting of the local language based on the geographic location of the caregiver. This feature may be extended to additional language setup when needed.

2.1.6 App Activity Management

MemorEz App allows caregivers to perform CRUD operations on the app. Caregivers can create, view, edit, and delete their profile. In addition, caregivers can create, edit and delete notes, calendar and tasks. The app also provides a search feature on the notes and calendar page where users can search notes and calendar activities by typing on the search bar. Once a caregiver is allowed to access the home screen, the microphone and the help screens are easily accessible from the bottom bar of the app.

3 Software & Hardware Specifications

MemoryEZ App is compatible to run on Android OS version 11 and above and iOS version 14 and above.

4 Application Pages

The application starts with a screen for selecting a language with a request to access the app see Figure 1. Once the language is selected, the caregiver must register with a phone number before accessing the application, Figure 2. After the phone number is registered, the caregiver will not be required to re-enter a phone number; instead, the app will prompt the caregiver to enter the password and route to the home page. If the app cannot authenticate the phone number or the password, the caregiver will notice an error message.

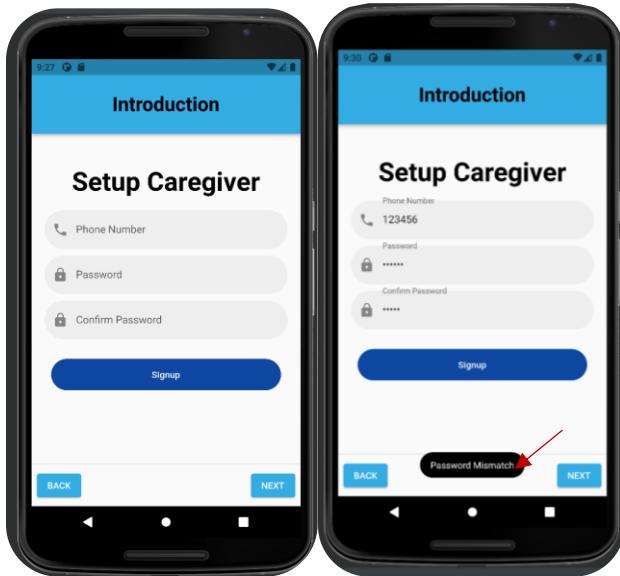
The main screen displaying the application features and functionalities menu is the app's home page. Caregivers can go back to the **Menu**, which is represented by the home icon, **Chat** and **Help** pages at any time of the app activities navigation. This section shall discuss each page and screen of the app in detail.

Figure 1

MemorEZ Starting Screen

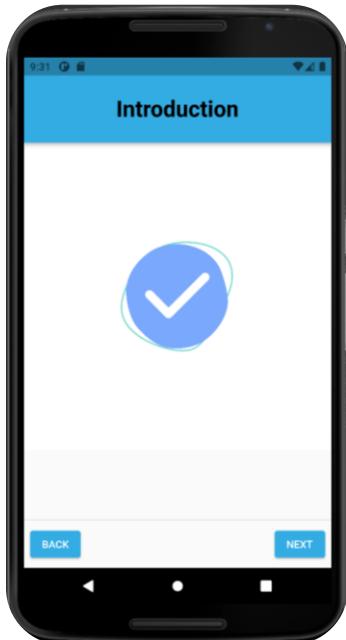


Figure 2
MemorEZ Caregiver Registration Screen



When a caregiver registers successfully, a screen will be displayed confirming the registration completion as is displayed in Figure 3.

Figure 3
MemorEZ Success Screen



4.1 MemorEz Home Page

Caregivers with a registered phone number can access the home page/Menu screen by logging in to the app, Figure 4. Once the password is confirmed, the caregiver will be navigated to the home page. The home page displays a clickable menu for tasks, calendar, notes, profile, and settings that open to the specified pages, Figure 5. In addition, a caregiver can exit from the caregiver mode to reroute the app to the default mode, which is the STML user mode, by clicking the “Exit caregiver” button at the top of the app, as displayed in Figure 5.

Figure 4

MemorEZ Caregiver Login Screen

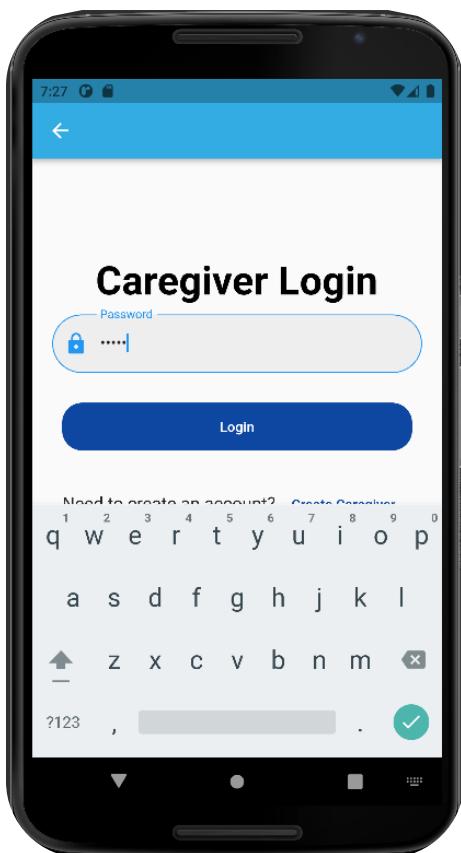
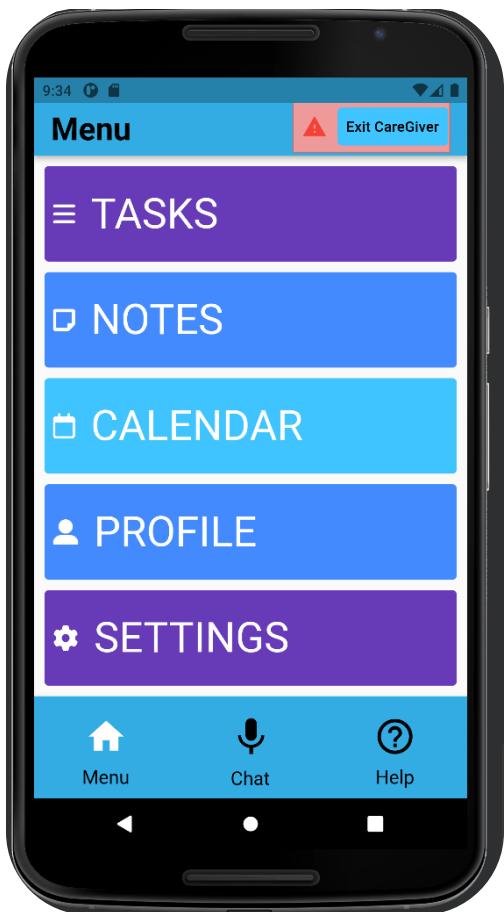


Figure 5*MemorEZ Home Screen*

4.2 Onboarding Select Language Screen

When a caregiver opens the MemorEZ app, a language dropdown menu defaulted to the local language of the geographic location of the caregiver will be displayed Figure 5. The caregiver can select a different language from the menu or can keep the current language. After selecting the language, the user can proceed to the next screen by selecting the “NEXT” button.

Figure 5
Onboarding Language Screen



Caregivers can change the language by selecting their language of preference from the dropdown menu, Figure 6. Caregivers can select among Spanish (Castilian), Portuguese, Chinese, and Arabic.

Figure 6
Onboarding Select Language Screen



4.3 Onboarding Permission Screen

When a caregiver clicks the chat, which is displayed as a microphone icon at the bottom bar of the app, the app will require consent to access the caregivers' phone microphone. If the caregiver declines the permission to access, the caregiver will see the warning message "features will be limited without allowing access to your microphone," as shown in Figure 5. Once the caregiver allows the microphone by Selecting "Yes" and clicking the 'NEXT' button, the caregiver shall be navigated to a screen that requires consent to use the caregiver's microphone, as in Figure 6.

Figure 5

Onboarding Permission Screen declined permission

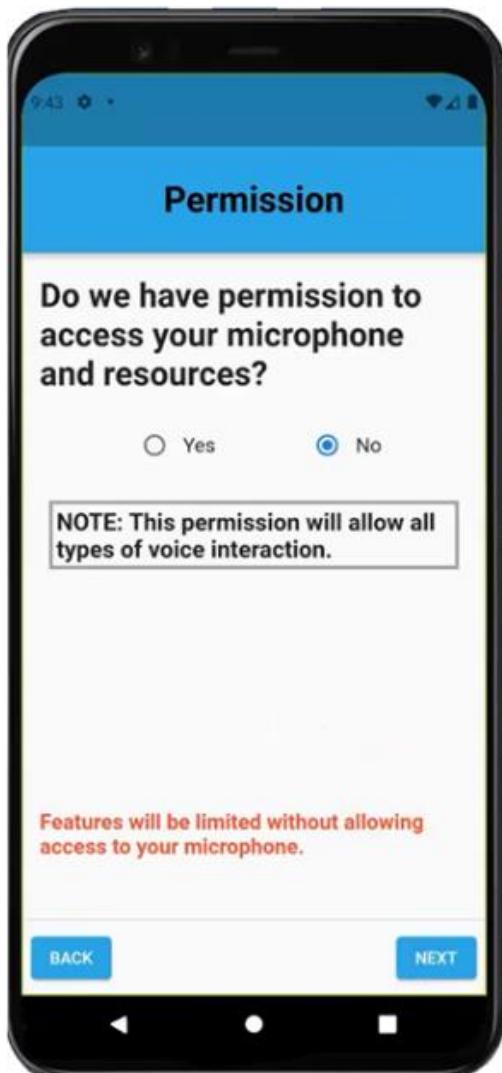
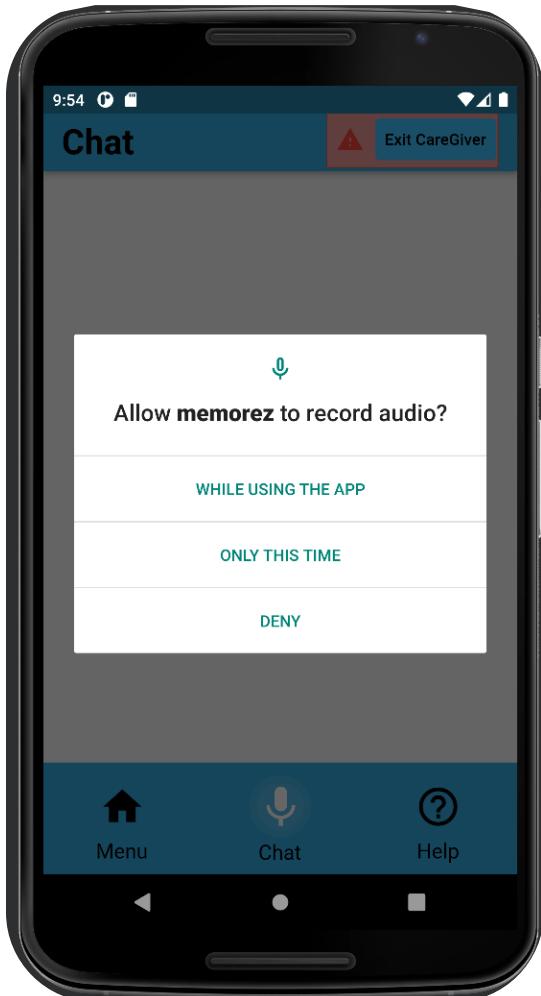


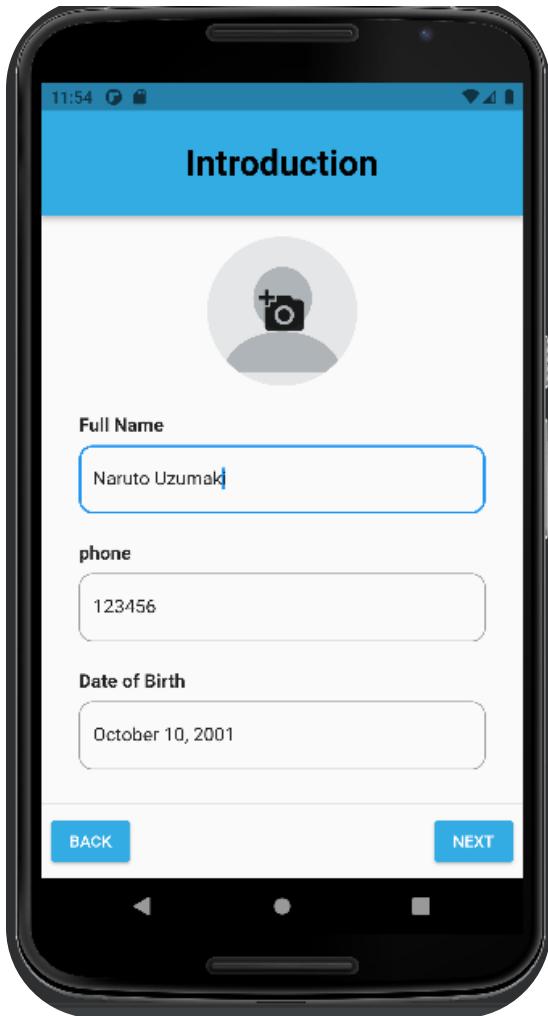
Figure 6
Onboarding Permission to Record Audio



4.4 Introduction Screen

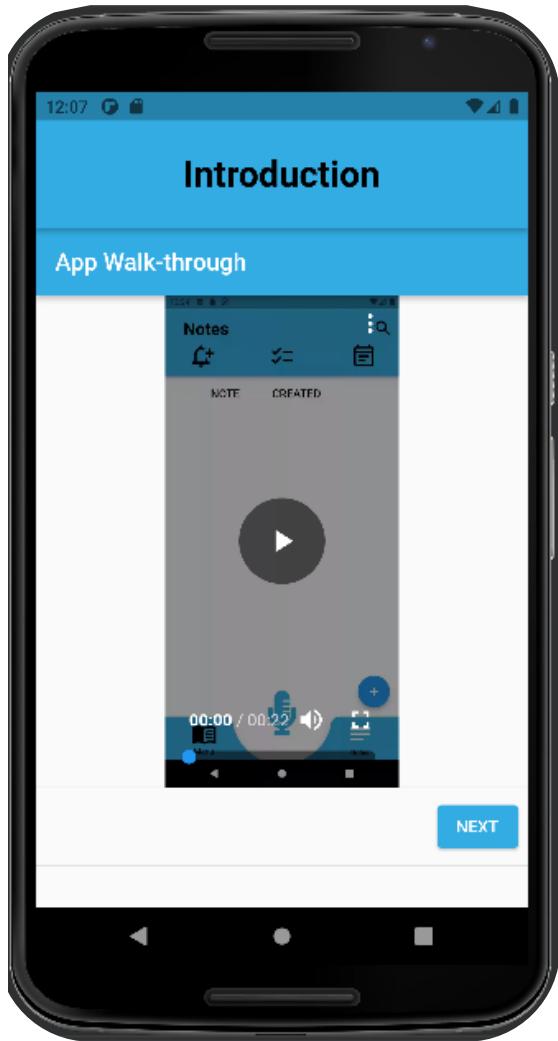
Once a caregiver's phone is registered successfully, an introduction screen with editable profile details will be displayed, Figure 7.

Figure 7
Editable Caregiver Profile



When the caregiver selects the “NEXT” button, an introduction walkthrough video shall be displayed as in Figure 8.

Figure 8
Introduction App Walkthrough



The walkthrough video covers a short introductory instruction.

4.5 Tasks Screen

The tasks screen is the very first on the menu page. When a caregiver clicks the “TASKS” tab from the menu screen of the app, as displayed in Figure 9, the caregiver will be prompted to a screen where the task can be registered by clicking the “+” button at the bottom right of the task screen to add a task to the “Active tasks” Figure 10.

Figure 9

Tasks Tab from the Menu Screen

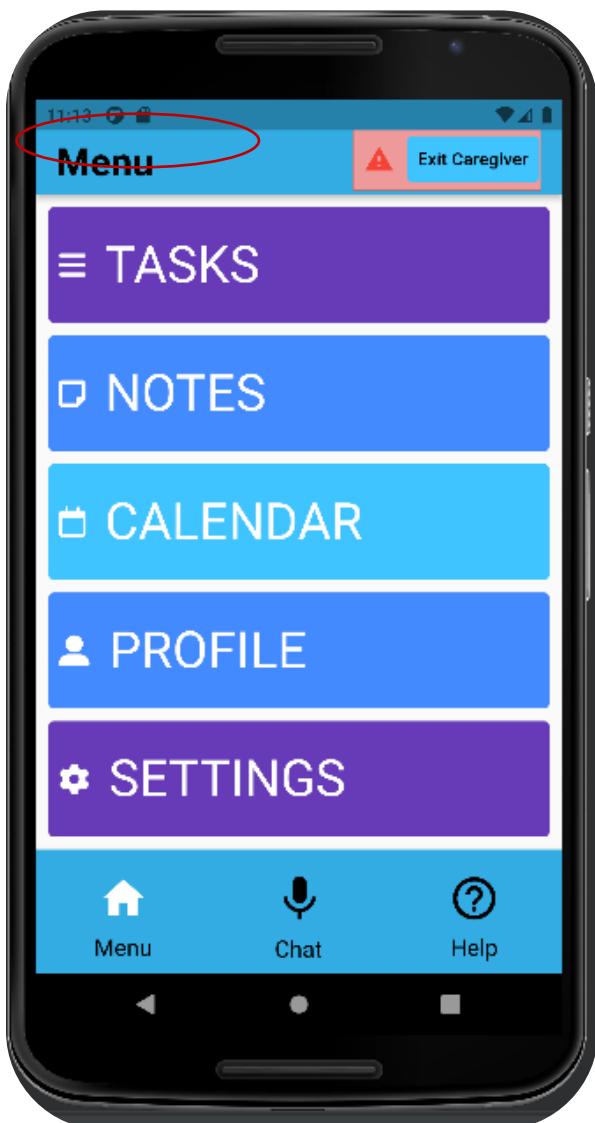
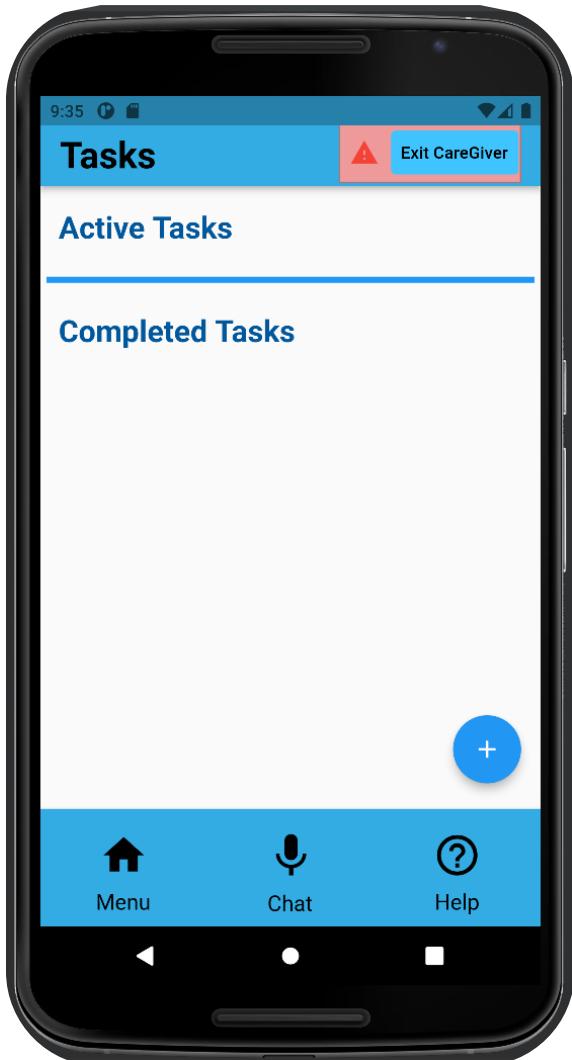


Figure 10

Tasks Screen to Add Active Tasks



After the caregiver selects the button with the "+" icon, another screen for an option to choose the type of activity will be displayed, Figure 11. If the caregiver selected "send a task for the patient to perform an action," a screen to set up a reminder schedule shall be displayed, see Figure 12.

Figure 11
Tasks Screen to Select Type of Tasks

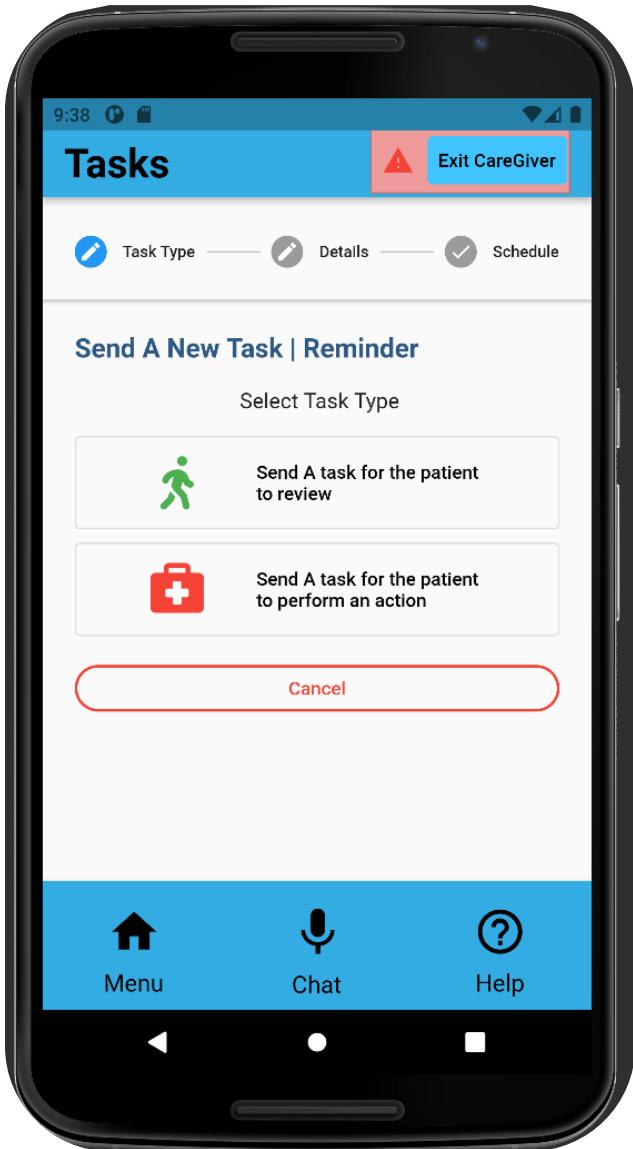
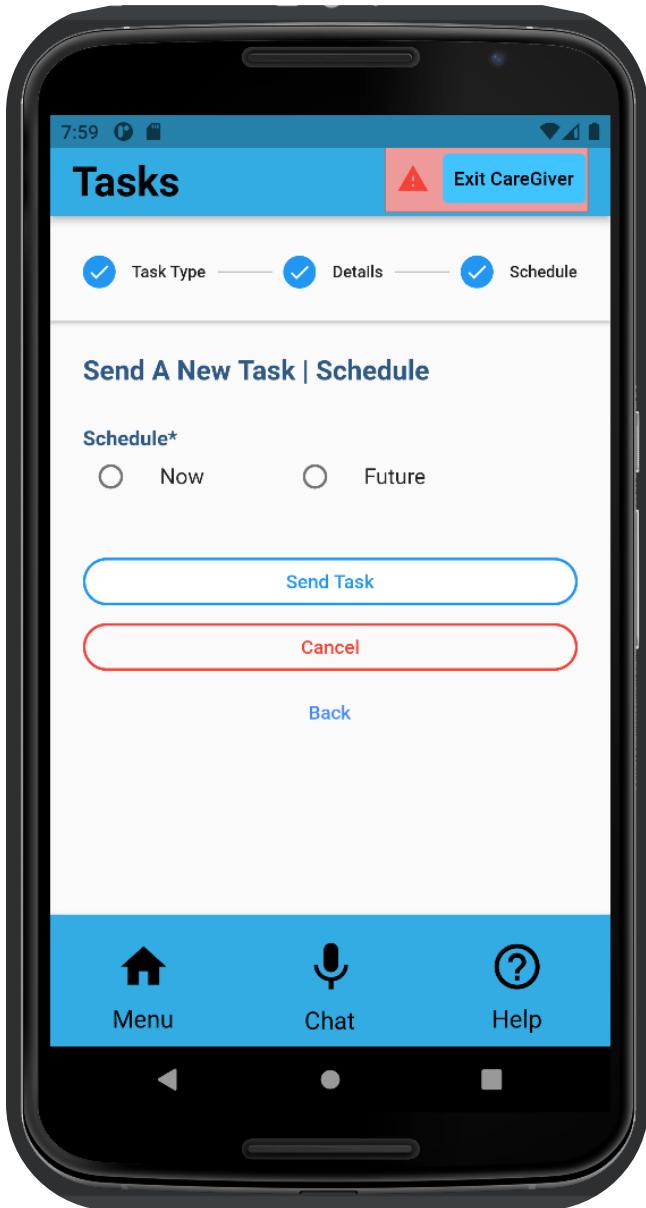
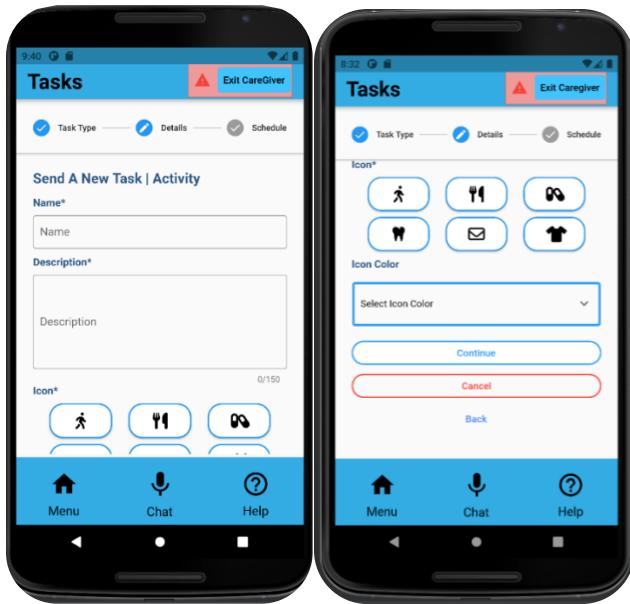


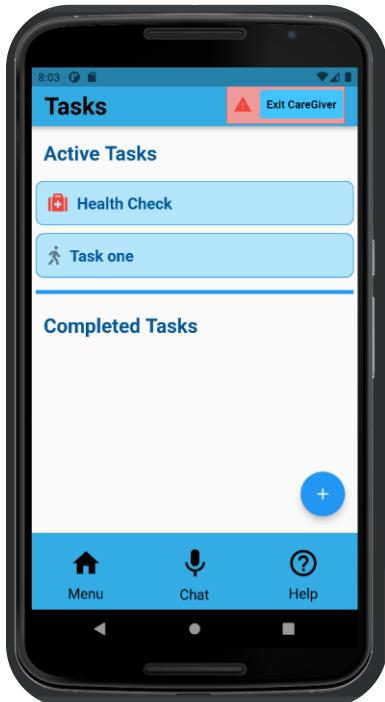
Figure 12
Tasks Screen to Schedule Task



In the event that the caregiver selected the “Send a task for the patient to review” as displayed in Figure above, the screen displayed below in Figure 13 will be displayed. The caregiver can select the icon that aligns with the activity along with the name of the task and description and type a note. The caregivers can also scroll down, select the icon color, and click “Continue” or “Cancel” the task.

Figure 13*Tasks Screen to Send a New Task*

When a caregiver completes recording tasks the STML user should be able to view the tasks displayed as in Figure 14.

Figure 14*Tasks Screen List of Tasks*

In addition, the caregiver can click the Active tasks to further record how the STML user is feeling, as is displayed in Figures 15 and 16 below. The caregiver can show the icons to the STML user to further clarify how the STML user is feeling and can type a description.

Figure 15

Task Screen Checking STML user Feelings

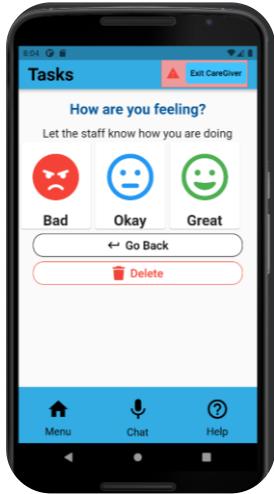
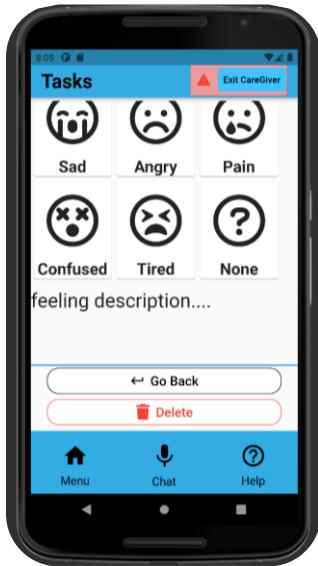
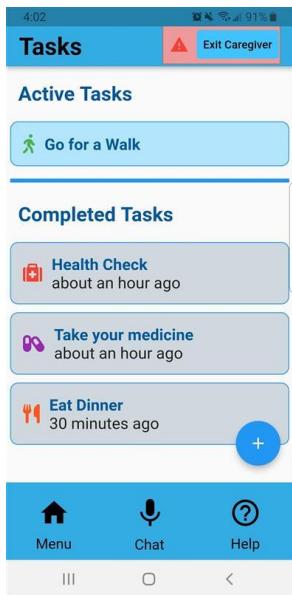


Figure 16

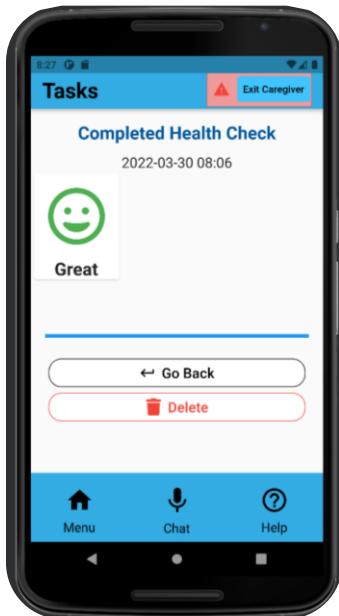
Task Screen checking STML user Emotions



The caregiver can double click the tasks listed under the “Active Tasks” to move the activities to the “Completed Tasks” section.

Figure 17*Task Screen Completed Tasks*

The caregiver can click on the completed tasks to view the detail of the activity that includes the date and time of the task completion, see Figure 18 above.

Figure 18*Task Screen Completed Health Check detail*

4.6 Notes Screen

When a caregiver selects “NOTES” from the menu in Figure 19, the screen that allows the caregiver to add new notes will be displayed, as in Figure 20. The caregiver can view the notes screen by selecting the notes icon on the bottom-right of the screen. Figure 21 shows the note before it is saved.

Figure 19
Select NOTES from the App Menu

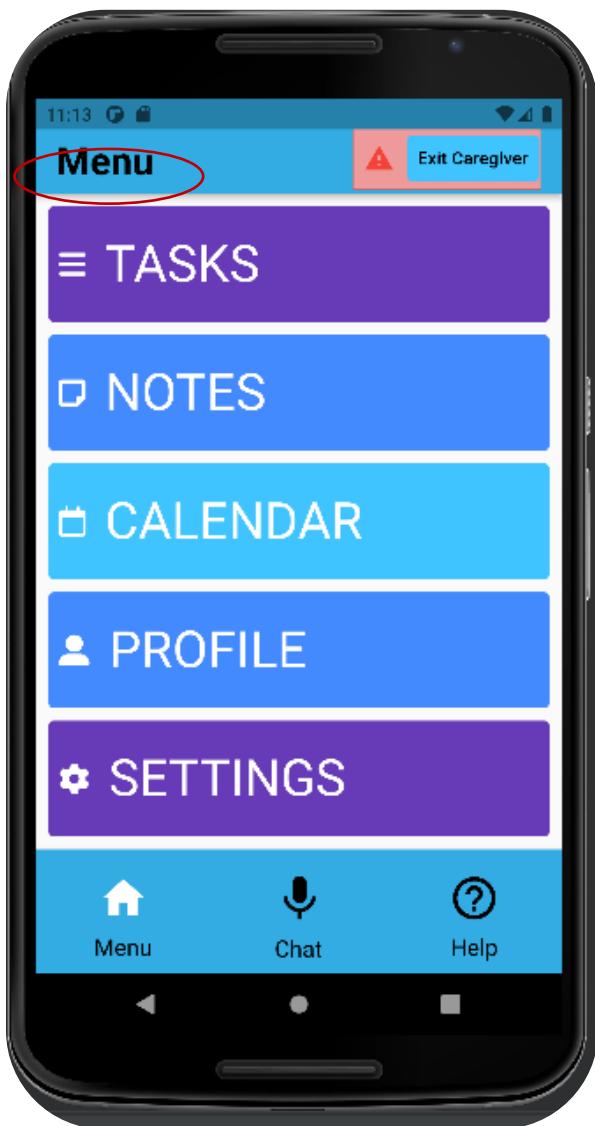


Figure 20
New Notes Screen to Add a Note

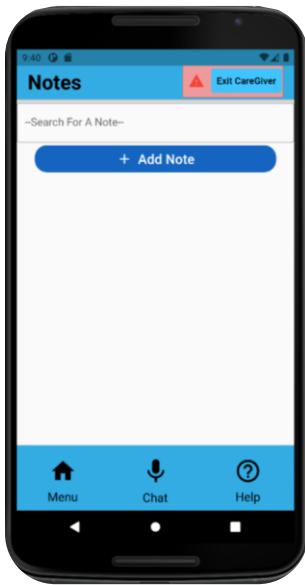
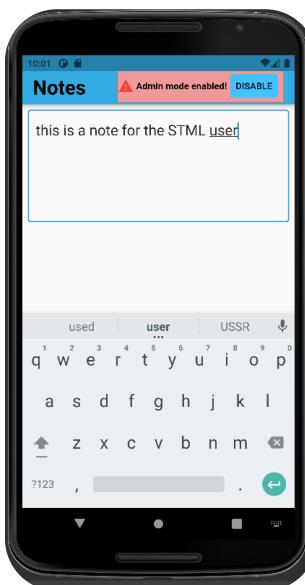


Figure 21
New Notes Typing Screen

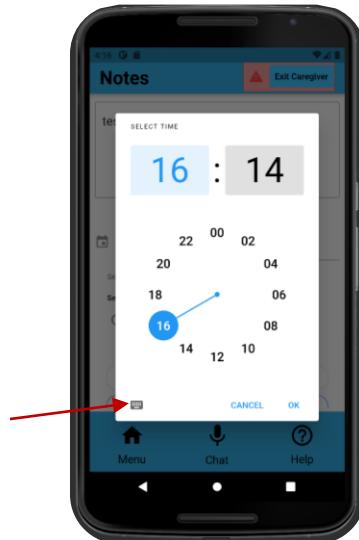


The app allows the caregiver to add a calendar date, Figure 22 and time, Figure 23 to the note.

Figure 22
Notes Screen Schedule Calendar



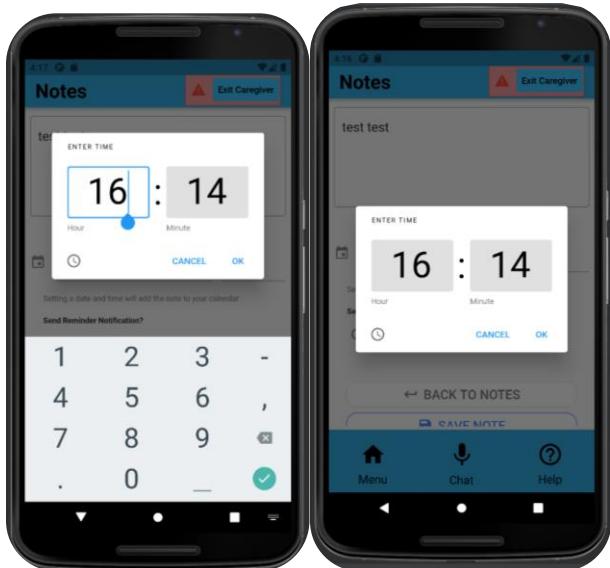
Figure 23
Notes Screen Schedule Time



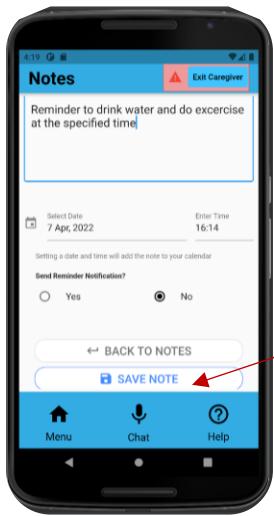
The caregiver can click the desktop icon indicated by the arrow in Figure 23 and use a different format displayed in Figure 24 to add time to the note. The caregiver needs to click the save note button to save the notes on the app Figure 25.

Figure 24

Notes Screen Alternate Time Scheduling design

**Figure 25**

Notes Screen Save Note



All the saved notes will be displayed on the app as in Figure 26. Caregivers can also search notes by typing any keyword on the app bar as indicated in Figure 27.

Figure 26
Notes Screen Previous Notes Display

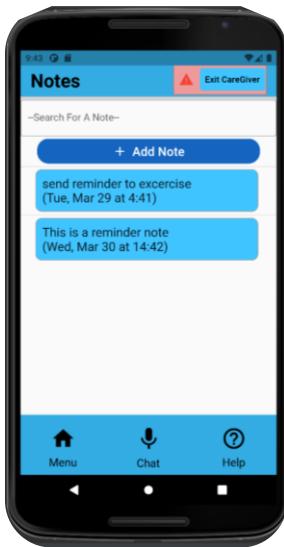
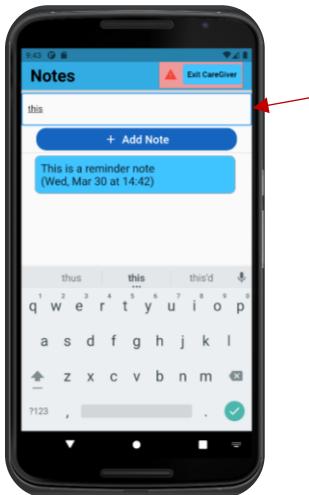


Figure 27

Notes Screen Search Bar



4.8 Calendar Screen

The calendar screen allows caregivers to view the date and time of the events by clicking on the event on the calendar. For example, caregivers can view weekly, monthly, and daily events by selecting the tabs for “Month,” “Week,” or “Day” Figures 28 - 30. The current date is displayed with a blue color. Caregivers can also search events and notes from the search bar by typing a search text on the search bar to find a note, Figure 30.

Figure 28
Calendar Monthly View

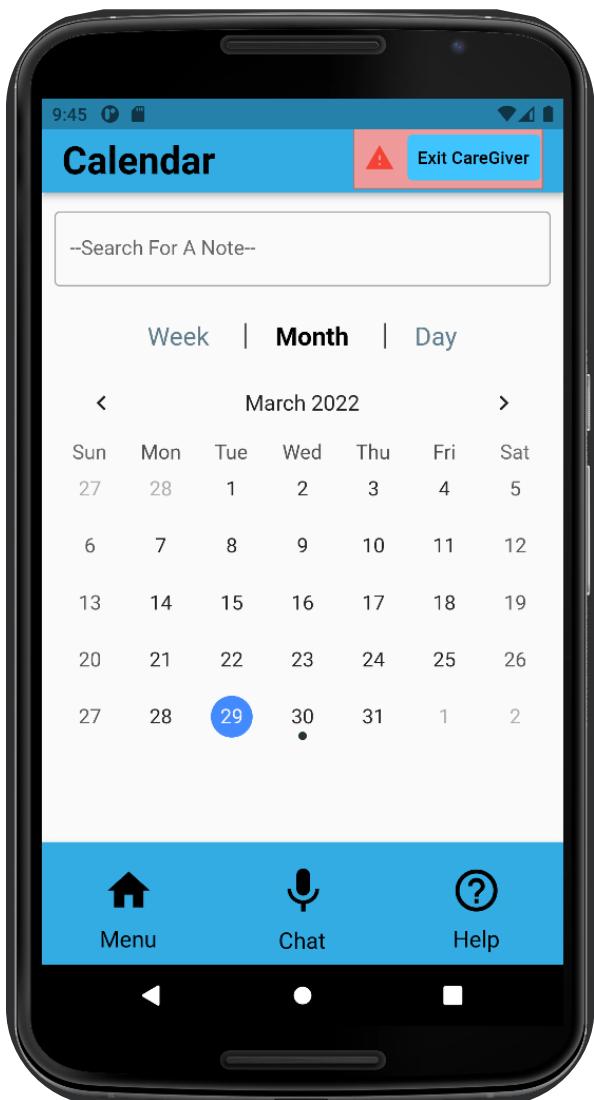


Figure 29
Calendar weekly View

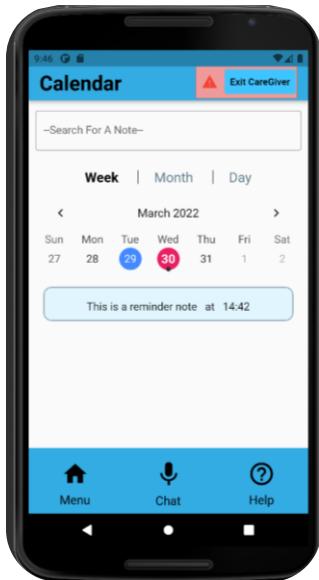
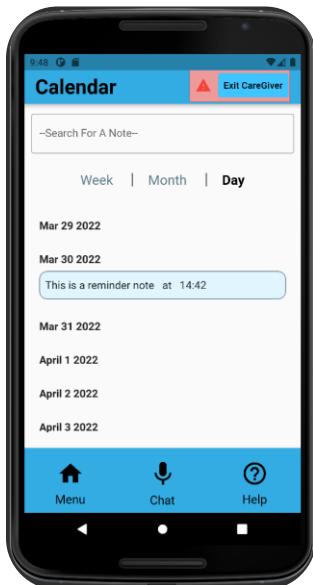
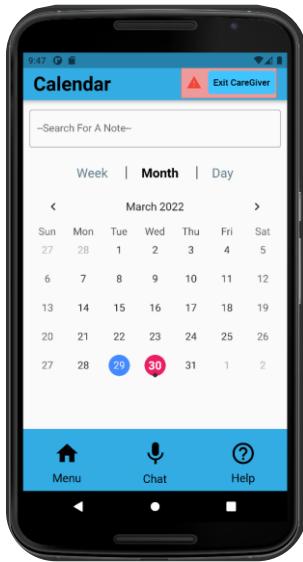
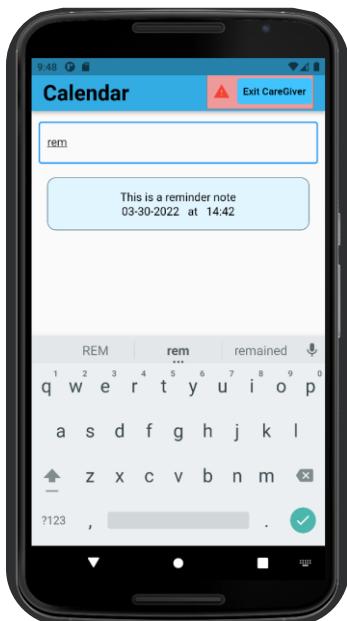


Figure 30
Calendar Daily View



Scheulded dates will be marked red on the calendar as is displayed on Figure 31 below.

Figure 31*Calendar Scheduled Date***Figure 32**
Calendar Search

4.11 Settings Screen

As shown in Figure 33, the settings screen is the screen where the caregiver can set up a notification for tasks and notes. The caregiver can turn on and off the notifications by switching the toggle button on the setting screen. In addition, the caregiver can select how long before the task/event the notifications need to be sent to the STML user by selecting minutes from the dropdown Figure 34. The caregiver can also choose for how long the notification needs to persist on the STML user's phone Figure 35.

Figure 33
Settings Screen

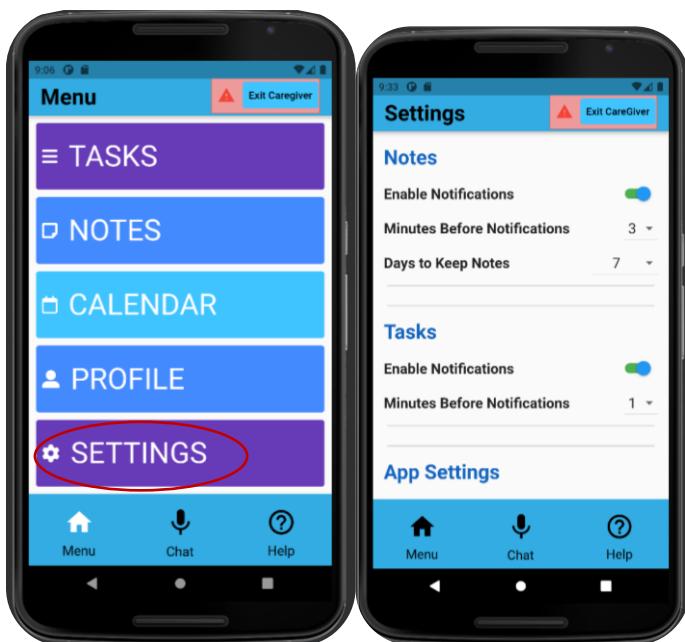
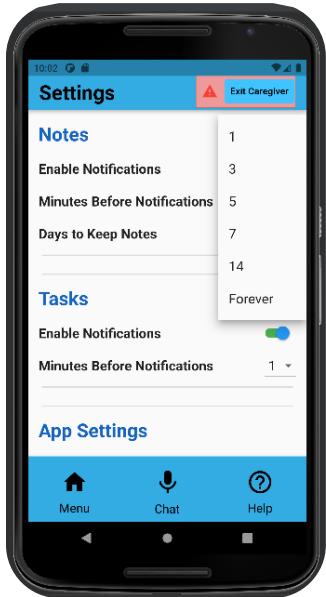
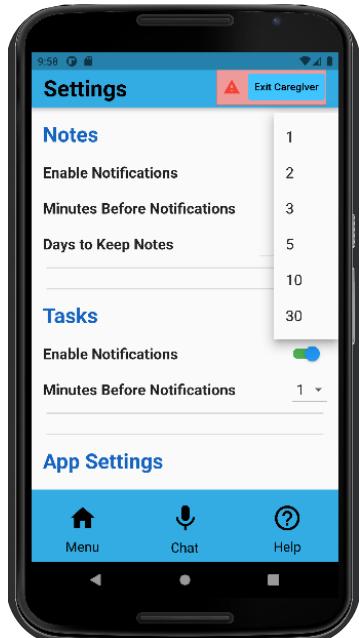


Figure 34*Settings Screen Number of Days to Keep Notes***Figure 35***Settings Screen Number of Minutes to Keep Notes*

The caregiver can also change the app settings, such as the font size, language, and theme, by scrolling down Figure 36. Once the caregiver completes changing the settings, the change can be saved, canceled, or reset to the original setting by clicking the icons at the bottom of the screen. The caregiver can navigate to the update caregiver screen by clicking the “Update Caregiver” button in the middle of the screen Figure 37. The caregiver can update or delete caregiver information from the “Update Caregiver” screen Figure 38.

Figure 36
Settings Screen App Settings

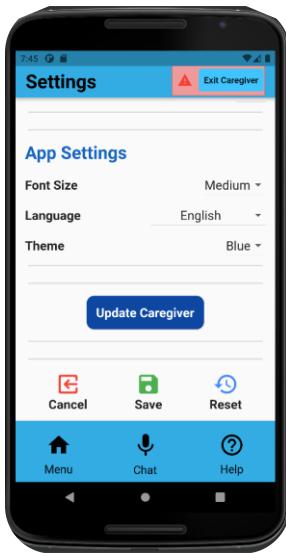
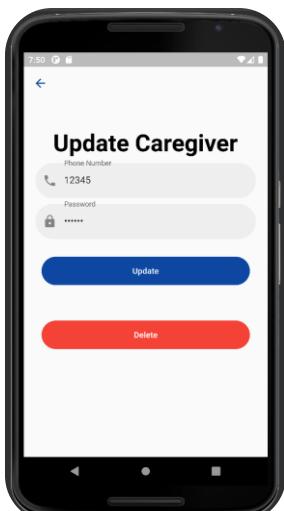


Figure 37
Update Caregiver Screen from the Settings Screen



When the caregiver changes the theme to the pink color, all the pages and screens shall be displayed as pink; In addition, the language setting changes for every screen of the app Figures 38 -40.

Figure 38
Settings Theme color Change



When the app language changed to Chinese and Arabic, the language of the entire app adopts to the changes, see Figures 39 and 40.

Figure 39

Settings Screen Theme and Language Change



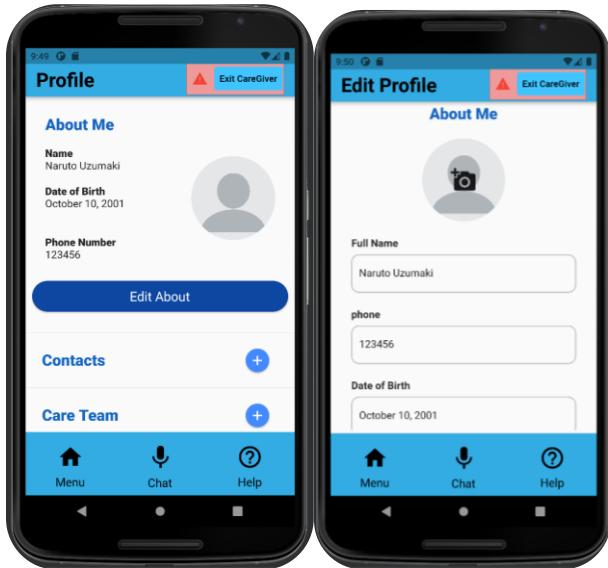
Figure 40
Settings Screen Language Change



4.12 Profile Screen

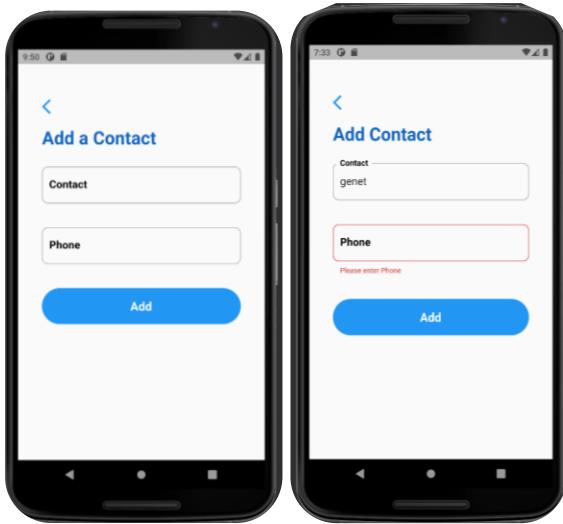
When a caregiver selects the Profile tab from the “Menu” screen, a “Profile” screen with the caregiver’s profile and the ability to edit the “About Me” section appears. The caregiver can click the “Edit About” button and edit the profile Figure 41.

Figure 41
Profile Screen Edit About Me Section



Caregivers can add Contacts by clicking on the button with the “+” icon next to contacts, as in Figure 41 above. A new screen that enables the caregiver to add a contact will appear, see Figure 42. Both fields are required that if the caregiver does not enter information, the app will flag to enter the information.

Figure 42
Profile Screen Add a Contact



The caregiver shall also be able to edit the information by clicking the pencil icon next to the contact Figure and update or delete the contacts information if needed Figure 43.

Figure 43
Profile Screen Edit a Contact

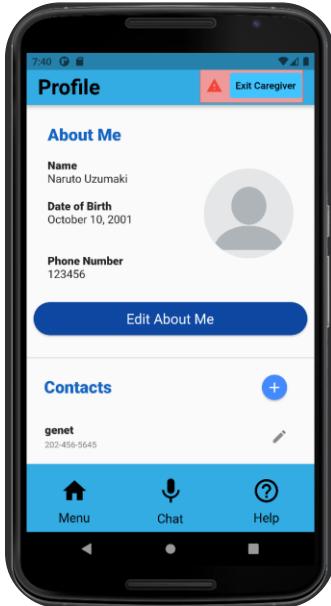
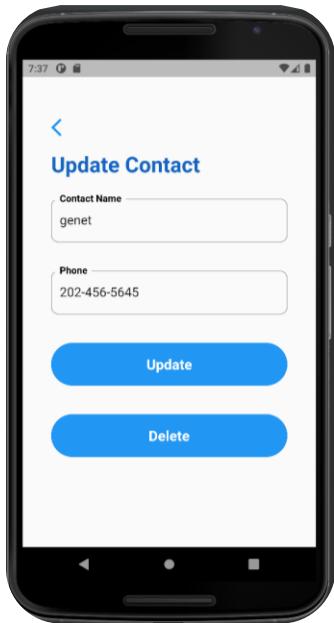
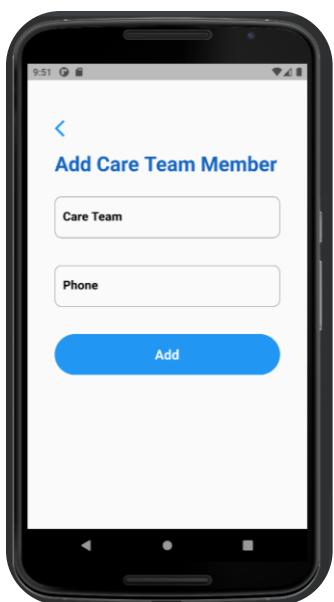


Figure 44
Profile Screen Update or Delete a Contact



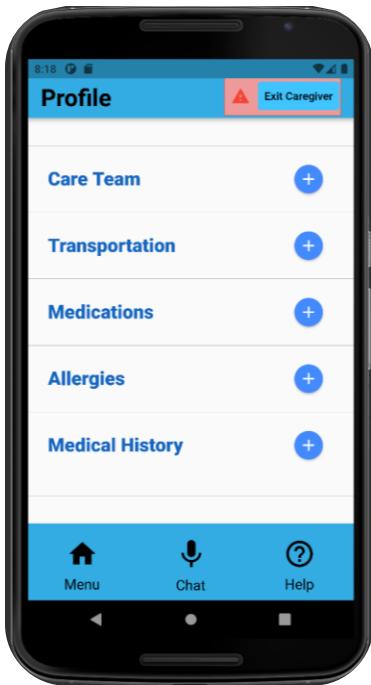
Similarly, a caregiver can add a care team member by clicking the “+” button next to the “Care Team.” A screen to input the care team member information shall appear in Figure 45. The caregiver can also update or delete the care team member’s information on the app.

Figure 45
Profile Screen Add a Care Team Member



The caregiver has the ability to add information about the STML user's medication, transportation, any allergies, and general medical history by clicking the circle button with the "+" icon next to the text, Figure 46.

Figure 46
Profile Screen additions



4.13 Help Screen

Caregivers can access the "Help" screen from any of the pages displayed as a menu on the "Menu" screen. The caregiver can select a specific help section from the help topics as in Figure 47, and a short video clip with a walkthrough of the specified section shall be displayed. For example, when a caregiver selects "How to create a task," as shown in Figure 48, a video clip walkthrough shows the entire task process.

Figure 47
Help Topics Display

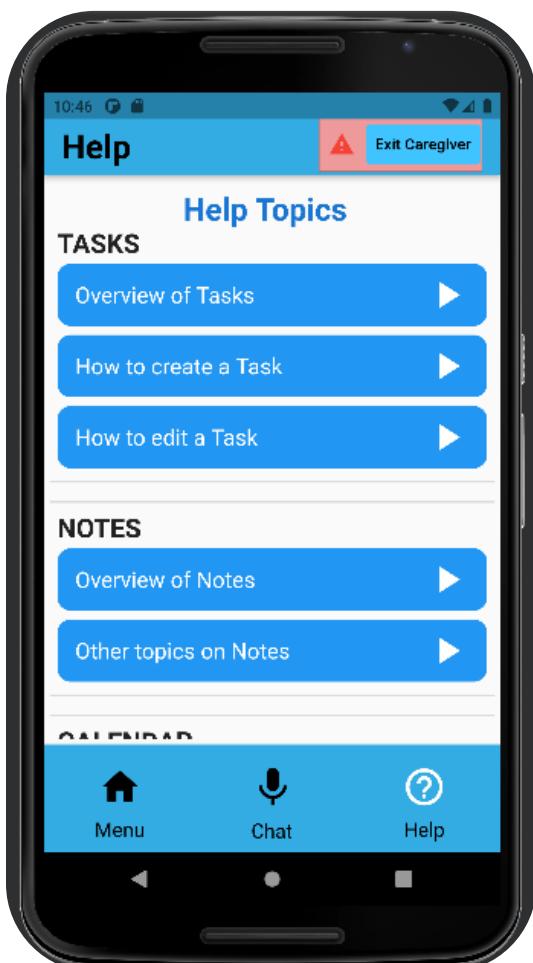
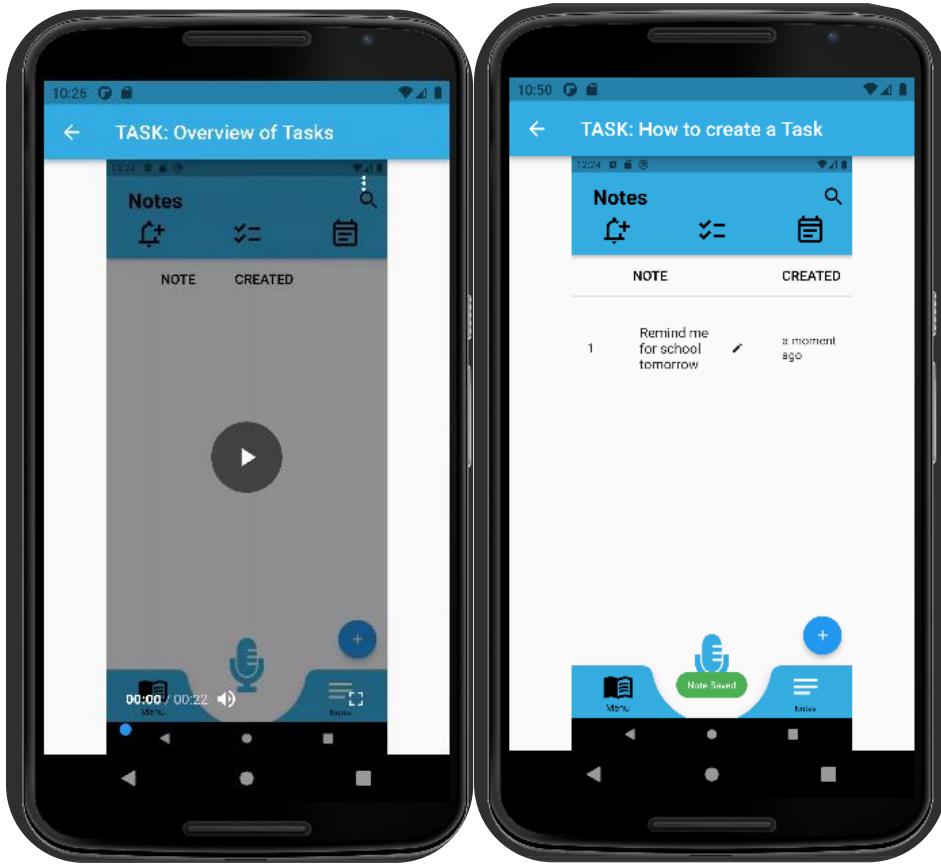


Figure 48
Selected Help walkthrough



5 Troubleshooting

5.1 Enable Caregiver Mode

5.1.1 Android & iOS

As the app is running:

Check the top left of the for red caution triable. If not visible follow these steps:

1. Click settings
2. Look for “Enable Caregiver Mode”
3. Click it and re-enter password

5.2 Viewing Completed Task in Caregiver Mode

5.2.1 Android & iOS

As the app is running:

If a task is completed but not shown in the completed list, follow these tasks:

1. Click “Exit Caregiver”
2. Click on “Tasks”
3. Check to see if the task is in the active list
4. If it is let the STML know to add a response and click the complete task button
5. Once done login back into caregiver mode
6. Click Tasks and check completed list

5.3 Resetting Password

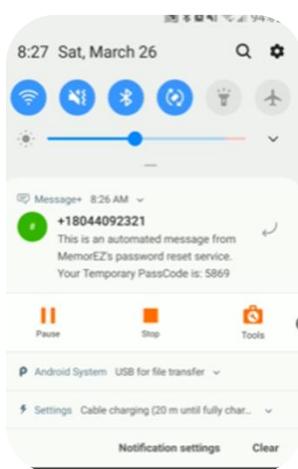
STEP 1: Click on “Reset Password” Figure 49.

Figure 49
Caregiver Password Reset



STEP 2: A random 4-digit code will be sent to the phone number of the caregiver.

Figure 49
Four Digit Code sent to the Caregiver's Phone

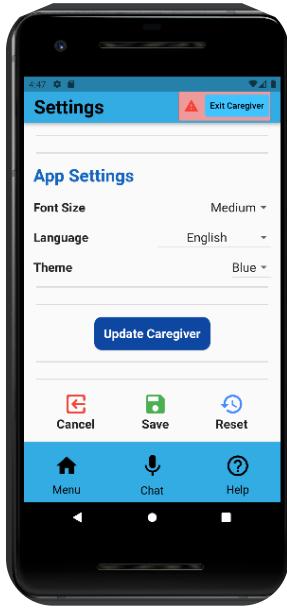


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STEP 3: Enter the 4 digit code to login.

STEP 4: Update the password by clicking the “update caregiver” button from the settings.

Figure 50
Update Caregiver



STEP 5: Enter the password and click the update button.

6 Appendices

6.1 Credits and Contributions

This user guide has been prepared by Remember All Team members.

The following individuals have actively participated in the MemorEZ App development user guide completion.

Table 2. Spring 2022 SWEN 670 Project Stakeholders and RememberAll Team members

Name	Role
Dr. Mir Assadullah	Stakeholder (Project Owner)
Roy Gordon	Stakeholder (Project Advisor)
Robert Wilson	Stakeholder (Project Advisor)
Daniel Avery	Stakeholder (Project Advisor)
James Eble	General Project Manager
Brian Avadikian	RememberAll Project Manager
Genet Asmelash	Business Analyst
Vivek Singh	Business Analyst
Lizset Chavez	Developer
Johnnie Webb	Developer
Robert Edwards	Developer
Yusufu Sanu	Developer
Eyob Woldehana	Business Analyst/ Tester

We would like to acknowledge that this app is a product of the collaboration team effort with the Team Flutter Mind and DSO Team of Spring Semester 2022, SWEN 670.