reMIND: *Digital Assistant for AD and Dementia Patients*

Preliminary Design

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Caring for a patient with Alzheimer's Disease and Dementia can be physically, metally, and emotionally demanding. Through its complexity, a modern solution with the aid of technology can effectively and efficiently aid not only the patient but also caregivers and relatives in combating the said condition.

Creating a digital application that could assist alleviating the challenges of AD and Dementia must include a wide selection of features that can help with memory engagement and retention, health monitoring and development, emergency responses, fun games, and social connectivity. Listed down below are some that can address such endeavors - an all-in-one app that acts as an accessible 24/7 digital assistant.

- Calendar & Reminders

With patients having frequent memory gaps, appointment scheduling and digital reminders can assist patients on being up to date with their everyday tasks. With the built-in calendar and reminder feature - patients, relatives, and caregivers can access and assign tasks on a daily, weekly, and monthly basis for easy and organized scheduling. The calendar is linked with a separate time feature that will automatically save an alarm and reminder for schedules. Time also has a built-in timer, alarm clock, world lock, and stopwatch to accommodate other activities.

- To-do list & Note-taking

As per the National Institute of Aging (2022), In moderate Alzheimer's Disease, patients may suffer from confusion, language association related to reading, writing, and working with numbers, difficulty in organizing thoughts, and impaired cognitive and behavioral factors. Journaling and note-taking, on the other hand, can counter such symptoms by promoting mental wellbeing, strengthening language and work association, and training the brain to stay sharp, mindful, and grounded on time (Tartakovsky, MS, 2022). Incorporating a note taking app can promote journaling to the patient as well as easy access for writing down important information. A to-do list will serve as a guide on the everyday tasks the patient and caregiver must accomplish so as to stay active and organized with combating Alzheimer's Disease and Dementia.

- Memory Stimulating Games

The progressive memory loss a patient experiences may be hard to manage as there is no treatment for such conditions. However, it may be slowed down by keeping the brain active and with engaging and entertaining games and activities (Lockett, MS, 2022). Games such as word puzzles, jigsaw, card and board games, and even video games can alleviate memory

deterioration and increase the patient's quality of life, especially when they play with their loved ones.

- Messaging Feature

Through coping with AD and Dementia, it is vital that they stay connected with their loved ones and spend time talking with them daily. According to the National Institute of Aging (2022), patients suffer from forgetting events and conversations that recently happened, finding the right words to say, loss of sense of initiative and spontaneity, as well as increased anxiety and/or aggression. Communication can battle these early symptoms by assisting them with making sense of time and reality and providing support and company- preventing anxiety, aggression, and stress which can further harm the cognitive abilities of the patient.

- Emergency and Tracking Device

Assisting a patient with Dementia and AD can be physically, mentally, and emotionally challenging for caregivers and relatives. Offering services that can both aid the patient and caretaker is vital in combating the condition as a whole. Due to the decline in memory and cognitive abilities, people with Alzheimer's experience difficulty in recognizing peers and family, impulsive behavior, Hallucinations, delusions, and paranoia (National Institute of Aging, 2022). Anything can arise anytime, even at the comfort of their own homes. The emergency and tracking device is available 24/7 and will automatically alert in case a situation arises.

- Mobile, desktop, and smartwatch compatibility

The application is compatible with a wide range of devices, thus being accessible to patients globally. It can be downloaded and launched on both Android and IOS devices for mobile users and smartwatch, and Windows and MAC for PC. Biotracking for smartwatches include heart rate, blood pressure, steps tracker, and a built-in sleeping tracker that will promote an increased sleeping quality for people with Alzheimer's and Dementia.
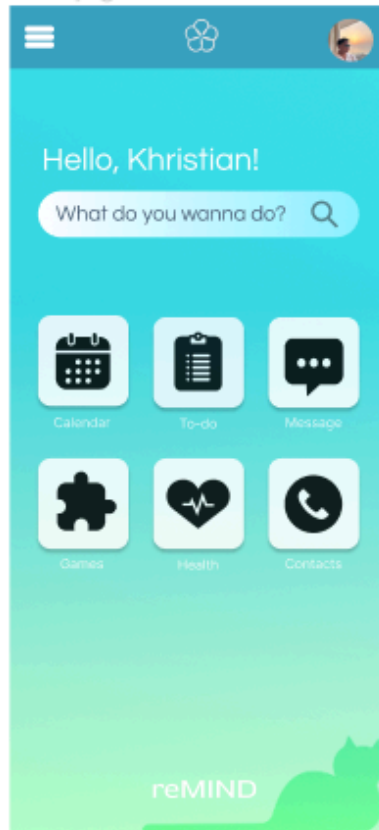
- Voice recognition & Assistance

In any case that no one is around to assist an AD patient, he/she can open the app or simply input a voice command to open it. A built-in AI assistant specialized in assisting, and even conversing, with people with Alzheimer's and Dementia will respond and cater to their needs while in use. The voice assistant can access any feature within the app such as calling for emergency assistance or texting a relative, as well scheduling appointments and setting an alarm for taking medications.
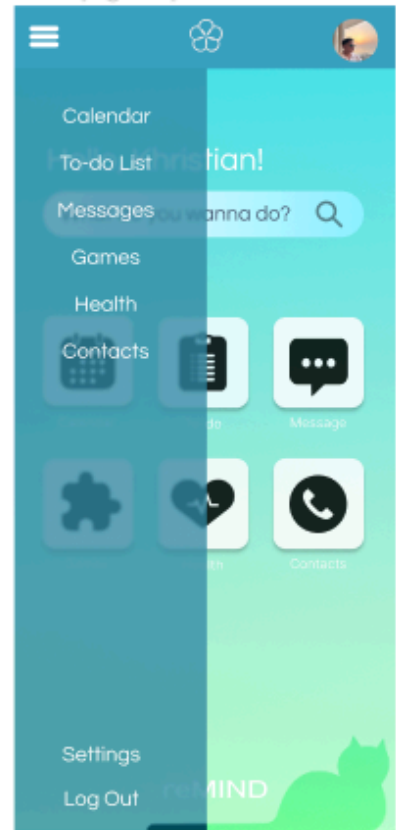
Loading Screen

Home page

Home page - Open

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SSG Background Readings