Lab 1 – Thought Locker

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Version 1
LAB 1 – THOUGHT LOCKER

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1 Introduction

- One in ten Americans ages 65 and older have some form of dementia.

- Of the dementia patients diagnosed, 50.4% of cases are mild, 30.3% are moderate, and 19.3% are severe.

- Individuals with mild dementia diagnosis need very little assistance in daily living activities.

- Mild dementia characteristics include changes in mood changes, memory problems, and experience difficulty effectively planning and thinking things through.

- Individuals with moderate dementia may now need frequent reminders and some assistance to wash and dress.

- Moderate dementia characteristics include development of paranoia, intense symptoms of anxiety and depression, and memory problems worsen.

- If a dementia patient is in the mild or moderate category they would prefer to maintain some of their independence.

- As dementia symptoms worsen, assistance is required from either a family member or outside source.

- Care becomes stressful for the caregiver/family member because of the required constant attention.

- The number of individuals diagnosed with dementia is steadily increasing over the years.

- Thought Locker is a mobile assistant designed to help dementia patients maintain their independence through reminders, item location, monitoring, and analytics that will be provided to the present caregiver.
2 Product Description

2.1 Key Product Features and Capabilities

- Compatibility
  - Can be used on smartphones, tablets, and other devices on Android and iOS operating systems.

- Authentication
  - Users will have to sign up for an account using their email address.

- Calendar
  - Users will be able to schedule reminders.
  - Customize settings for reminders and notifications.

- Item Finders
  - Users will be able to locate commonly misplaced items
  - Integrate sensors to track item location.

- Sensors
  - Users will have motion sensors to detect activity in the home.

- Notifications
  - Users will be provided with daily reminders and notifications.

- Patient Monitoring
  - Ability for family members or caregivers to monitor patient activities.
  - Provides peace of mind for family members and caregivers.

- Customizable Settings
  - Family members or caregivers can customize the app for each patient’s needs.
  - Patients can control some settings to maintain a sense of independence.
2.2 Major Components (Hardware/Software)

Figure 1

*Thought Locker Major Functional Component Diagram*

- **Hardware**
  - Android or Apple mobile device with Internet Access
  - Application Server
  - Database Server

- **Software**
  - Backend Server- AWS
  - Databases - PostgreSQL, MongoDB
  - Programming Language - Javascript(React/Node.js)
  - Testing - Jest
  - Repository - GitHub
LAB 1 – THOUGHT LOCKER

○ Version Control - GitHub

○ Issue Tracking - GitHub

○ CI/CD - GitLab

○ Containerization - Docker
3 Identification of Case Study

- Who is Thought Locker for?
  - Individuals with mild to moderate dementia
  - Caregivers / family members of individuals with mild to moderate dementia

- What will Thought Locker be used for?
  - Granting caregivers and patients an easy method to locate lost or misplaced items.
  - Retaining analytics for caregivers to visualize and monitor patient habits, such as the number of times an item has been lost or the number of times a door has been left open
  - Reminding patients to take their medication or inform them of upcoming appointments
  - Providing patients with the opportunity to immediately contact a caregiver with an urgent need
  - Offering patients and family members a more cost-effective option than hiring a full-time caregiver

- Who else might benefit from Thought Locker?
  - Medical facilities
  - Insurance companies / Medicaid
  - Alzheimer’s research groups

- What user cases will be demonstrated in the prototype?
  - Individuals with dementia
    - 6 users (3 mild, 3 moderate) mocked up
    - Item finding
- Scheduling
- Contacting
  - Caregivers / family members
    - 3 users mocked up
    - Monitoring
    - Providing help
    - Analyzing trends
4 Product Prototype Description

• [ TO BE DETERMINED ]

4.1 Prototype Architecture (Hardware/Software)

• [ TO BE DETERMINED ]

4.2 Prototype Features and Capabilities

• [ TO BE DETERMINED ]

4.3 Prototype Development Challenges

• [ TO BE DETERMINED ]
5 Glossary

[ TO BE DETERMINED ]
6 References


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