CURE Aid Tool

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Table of Contents

    - I/O
    - DataFlow
- Entity Relationship Model (E-R Model)
    - Example - https://en.wikipedia.org/wiki/Entity%E2%80%93relationship_model
- Overall operation - System Model
    - Simplified Sub-system to System interaction

5. System – Analysis Perspective – *Group responsibility*

- Identify subsystems – analysis point of view
- System (Tables and Description)
    - Data analysis
        - Data dictionary (Table - Name, Data Type, Description)
    - Process models
- Algorithm Analysis
    - Big - O analysis of overall System and Sub-Systems

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6. Project Scrum Report - *Group Responsibility*

- Product Backlog (Table / Diagram)
- Sprint Backlog (Table / Diagram)
- Burndown Chart

7. Subsystems

7.1 Subsystem 1 – Name 1 - *Individual responsibility*

- Initial design and model
    - Illustrate with class, use-case, UML, sequence ..... diagrams
    - Design choices
- Data dictionary
- If refined (changed over the course of project)
    - Reason for refinement (Pro versus Con)
    - Changes from initial model

    - Refined model analysis
    - Refined design (Diagram and Description)
- Scrum Backlog (Product and Sprint - Link to Section 6)
- Coding
    - Approach (Functional, OOP)
    - Language
- User training
    - Training / User manual (needed for final report)
- Testing

7.2 Subsystem 2 – Name 2 - *Individual responsibility*

- Initial design and model
    - Illustrate with class, use-case, UML, sequence ..... diagrams
    - Design choices
- Data dictionary
- If refined (changed over the course of project)
    - Reason for refinement (Pro versus Con)
    - Changes from initial model
    - Refined model analysis
    - Refined design (Diagram and Description)
- Scrum Backlog (Product and Sprint - Link to Section 6)
- Coding
    - Approach (Functional, OOP)
    - Language
- User training
    - Training / User manual (needed for final report)
- Testing

7.3 Subsystem 3 – Name 3 - *Individual responsibility*

- Initial design and model
    - Illustrate with class, use-case, UML, sequence ..... diagrams
    - Design choices
- Data dictionary
- If refined (changed over the course of project)
    - Reason for refinement (Pro versus Con)
    - Changes from initial model
    - Refined model analysis
    - Refined design (Diagram and Description)

- Scrum Backlog (Product and Sprint - Link to Section 6)
- Coding
    - Approach (Functional, OOP)
    - Language
- User training
    - Training / User manual (needed for final report)
- Testing

7.4 Subsystem 4 – Name 4 - *Individual responsibility*

- Initial design and model
    - Illustrate with class, use-case, UML, sequence ..... diagrams
    - Design choices
- Data dictionary
- If refined (changed over the course of project)
    - Reason for refinement (Pro versus Con)
    - Changes from initial model
    - Refined model analysis
    - Refined design (Diagram and Description)
- Scrum Backlog (Product and Sprint - Link to Section 6)
- Coding
    - Approach (Functional, OOP)
    - Language
- User training
    - Training / User manual (needed for final report)
- Testing

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8. Complete System – *Group responsibility*

- Final software/hardware product
- Source code and user manual – screenshots as needed - Technical report
    - Github Link
- Evaluation by client and instructor
- Team Member Descriptions

1. Project Definition

Background

According to the NC Disease Event Tracking and Epidemiologic Collection Tool (NC DETECT), emergency department (ED) visits for opioid drug overdoses in Guilford County jumped from 47 in 2010 to 392 in 2017. While heroin overdose ED visits increased from 9 in 2010 to 291 in 2017.. GCES calls relating to opioid overdoses increased from 157 in 2013 to 1,015 in 2017, a year in which GCES conducted nearly 700 Naloxone overdose reversals. Of the 90 accidental poisoning deaths in Guilford County involving ICD-10 codes X42-X44, 43.3% involved heroin, 36.7% synthetic opioids and 21.1% other opioid drugs. GCES has reported 175 opioid-related deaths in 2017 based on local law enforcement preliminary death data.

This indicates a need for easily accessible resources and tools for substance addicts to help encourage them and help them to get the help they need. When people don't know they have help, they usually don't seek it. This app can help inform and open families and addicts themselves to the resources and help them to plan for outcomes and notify them of events in their area. It can also provide people with incentives to stay on track with their program(s) and goals.

What is the CURE Aid Tool?

The CURE Aid application is a tool which users can utilize to help themselves or someone they know with harmful substance addictions. The application will allow users to plan events and meetings with helpful organizations and care centers, make and organize gradual recovery steps for each week, and get immediate help in case of emergencies. We want this to be a one-stop useful tool to aid addicts and help them stay on track with their goals.

Goals for the CURE Aid Project

We will be fleshing out a whole new design template for the CURE application. We will be working closely with members of the original Android team to redesign the app from the ground up to be more interactive. Some of the planned features include:

- Location services for finding centers and resources near you.
- Auto-dial for getting help in an emergency.
- Calendar Appointments.
- Goal tracking with notification updates.
- Event updates for community outreaching.
- Achievements for meeting goals

We're currently aiming to make this application uniform between both Android and iOS platforms. We would like to ensure it passes all privacy and store regulations so that it's available to all who need it.

2. Project Requirements

Functionality

The CURE Application will be designed for ease of use with specific user functions for finding, setting up, and managing appointments. Users will be able to quickly build calendars and set up plans and goals. The app will function as a tool to aid addiction victims in seeking resources in their area and information for managing their addictions.

Usability

The user interface will consist of a primary menu with the important options available up front. Each major option can be swiped through like a tab. Within these tabs are sub-level features which relate to the respective main option for which they are under.

The performance will be smooth transitions between tabs. By using APIs for location search and map usage, related functionality should be very efficient. With regards to calendar events, they will likely be light-weight background notifications which keep track of dates and times for which the events need to notify the user.

System Details

The app will be run primarily on Android devices. The goal is to be compatible on Android 4.4 and above. This lower end compatibility is important in order to include as many users as possible. The goal is for this app to run under 100MB of RAM while in direct use, while only using about 15MB of RAM for background processes.

There will be necessary APIs for integrating map functionality (Arc GIS), and the user may need a web browser for accessing information from website links (one button call or text feature. if we decide to provide them. Otherwise the application is meant to be an all-in-one aiding tool for users.

A database may be necessary if only for login information, however it is likely that this information can be stored via Google's account information tools.

The login pages will be fitted with Google's authentication protocols with regards to login procedures, since it uses tokens from Google's API. For when users can choose to share their information with known contacts, information will be encrypted before being sent to them. Information can be authenticated for integrity using a SHA-256 hashing on data.

3. Project Specification

Concentration and Target

The primary focus of this application is to create a web application that can be ported to mobile devices for Cure-NC Greensboro Area Health Education Center (GAHEC). The target audience for our application are families of the opioid crisis and especially individuals suffering from it.

Libraries, Frameworks and Development Environment

For the web application we will be utilizing Meteor API to develop the application in JavaScript, Mongo DB (noSQL database), Node.js, Adobe PhoneGap, and Cordova. Google Maps API or ArcGIS Maps for node integration for interactive maps. The development environment for the project includes both Android and iOS platforms where we will develop the original configurations in JavaScript. CURE Aid Tool will be a stand-alone application which is part of the self-help and organization genre.