Module Guide

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Table 1: **Revision History**

Date	Version	Notes
November 6, 2017	1.0	Created
November 8, 2017	1.1	Updated content
November 10, 2017	1.2	Updated and finalized content

1 Introduction

Reddit Clone is a project that mimics the basic functionality of the website Reddit, a community based social news aggregator. This document(referred to as the Module Guide) aims to specify the module structure of the system for designers and maintainers. In order to support the principle of information hiding, the system is decomposed into easily maintainable, reusable modules with low coupling and high cohesion.

The following is an outline of the document structure:

- Section 2 contains possible changes to the system

- Section 3 provides an overview of module design within the system

- Section 4 explains how the requirements and module design are related

- Section 5 provides details on each module, specifically it's secret(s) and service(s)

- Section 6 contains the traceability matrices between modules/requirements and modules/anticipated changes

- Section 7 provides the use hierarchy between each module

MIS documentation was generated for each module and markdown document. The MIS was generated using CompoDoc, a document generator for AngularJS projects. MIS documentation can be found in the Gitlab repo.

2 Anticipated and Unlikely Changes

2.1 Anticipated Changes

AC1: Navigation methods

AC2: Data modelling

AC3: Content interaction

AC4: Data management

2.2   Unlikely Changes

UC1: Input/Output devices of the system

UC2: Real time database/hosting using Firebase

UC3: Assumption of a working internet connection

UC4: User interface

UC5: Authentication methods

UC6: Ability to edit posts/subreddits/user profiles

3   Module Hierarchy

This section provides an overview of module design within the system, including naming and classifications . Modules are summarized in a hierarchy decomposed by secrets in Table 3. The modules listed below, which are leaves in the hierarchy tree are the modules that will actually be implemented.

Module Name	Module Number
Hardware Hiding Module	M1
Authentication Module	M2
Subreddit Module	M3
Searching Module	M4
Post Module	M5
Comment Module	M6
Storage Module	M7
Sorting Module	M8
Database Module	M9
Database Module	M10

Table 2: Module Number Format

Level 1	Level 2
Hardware-Hiding Module	
Behaviour-Hiding Module	Authentication Module (M2) Searching Module (M4) Storage Module (M7) Sorting Module (M8) Database Module (M9)
Software Decision Module	Subreddit Module (M3) Post Module (M5) Comment Module (M6) Homepage Module (M10)

Table 3: Module Hierarchy

4 Connection Between Requirements and Design

The system is designed to satisfy the requirements stated in the Software Requirements Specification (SRS) as well as allow for further features to be added. The user interface mimics the appearance of the original Reddit's mobile site and is designed to be intuitive and easy to use for most users. A graphical representation of the connection between the requirements listed in the SRS and the modules specified within this document can be viewed in Table 5.

5 Module Decomposition

5.1 Hardware Hiding Modules

Secrets: The implementation of the virtual machine within device being used

Services: Interface between user and the system

Implemented By: Internet browser

5.2 Behaviour-Hiding Module

5.2.1 Authentication Module

Secrets: Authentication

Services: This module contains all the logic that handles authenticating user and setting user environment variables.

Implemented By: –

5.2.2 Searching Module

Secrets: Searching algorithm

Services: Handles searching for subreddits within the application

Implemented By: –

5.2.3 Storage Module

Secrets: User settings

Services: Contains user settings on local machine

Implemented By: –

5.2.4 Sorting Module

Secrets: Sorting algorithms

Services: Sorts posts based off of different attributes

Implemented By: –

5.2.5 Database Module

Secrets: Database communication

Services: Handles users adding, deleting or updating content

Implemented By: –

5.2.6 Homepage Module

Secrets: Main hub to all features

Services: Central navigation and access to all features or content

Implemented By: –

5.2.7 User Authentication Module

Secrets: User authentication communication

Services: Handling new users, creation of users, password and username authentication, password reset

Implemented By: –

5.3 Software Decision Module

5.3.1 Subreddit Module

Secrets: The design decision of how to navigate to and from subreddits as well as how content is created or loaded and displayed

Services: Displaying a page specific to a certain topic

Implemented By: –

5.3.2 Post Module

Secrets: The design decision of how to navigate to and from posts as well as loading post content

Services: Displaying post content

Implemented By: –

5.3.3 Comment Module

Secrets: The design decision of how to navigate to and from the comments page as well as how to load and display comments

Services: Displaying comments specific to posts selected

Implemented By: –

6 Traceability Matrix

Table 4: Trace Between Requirements and Modules

Requirement	Modules
Functional Requirements	
FR1	M2, M9, M10
FR2	M2, M3
FR3	M3, M5, M6, M9, M10
FR4	M2, M5, M6, M9
FR5	M2, M6, M9
FR6	M2, M5, M6, M9, M10
FR7	M3, M7, M8, M9, M10
FR8	M9, M10
Non-functional Requirements	
NF1	M3, M5, M6, M8, M10
NF2	M1
NF3	M1, M9
NF4	M1, M9
NF5	M1
NF6	M1
NF7	M1, M9
NF8	M2, M9

Table 5: Trace Between Anticipated Changes and Modules

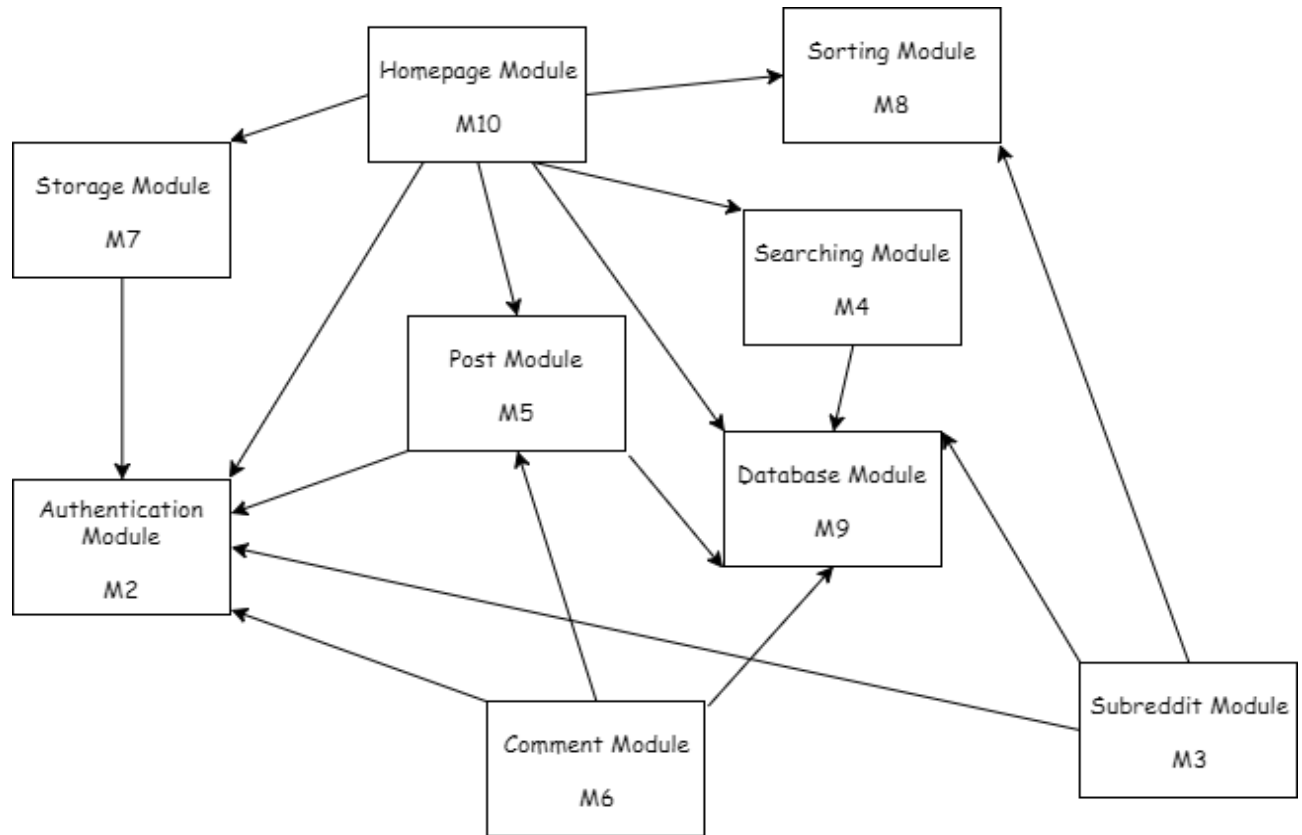| Anticipated Changes	Modules
AC1	M3, M5, M6
AC2	M3, M5, M6, M9
AC3	M2, M3, M5, M6, M9
AC4	M9

7 Use Hierarchy Between Modules

Figure 1: Use hierarchy among modules