

19CSE463 - Mobile Application Development
Project Report

Habit Tracking App

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Scope

The Habit Tracker App is designed to provide users with a simple yet effective tool to build and maintain positive habits. The app focuses on a minimalistic and user-friendly interface, allowing users to easily add and organize habits with customizable frequencies and a color-coded system for better visualization. Users can track their progress through streak counters and checkboxes, encouraging consistency in habit completion. Customizable notifications and reminders ensure that users stay on track, with the flexibility of snoozing reminders as needed. Additionally, the app offers basic performance analytics, such as habit streaks, average completion rates, and summaries of weekly and monthly progress. By emphasizing simplicity and eliminating unnecessary complexity, the app helps users create structured routines, stay motivated, and achieve their personal goals efficiently.

Features

1. **Habit List Display:** The app displays a well-organized list of habits to be tracked daily. Each habit shows its name, a progress streak counter, and a checkbox for marking completion.
2. **Habit Completion Tracking:** Users can mark habits as completed for the day using a checkbox next to each habit.
3. **Theming Options:** The app supports light and dark themes, allowing users to switch between them for a customized experience.
4. **Add New Habit Functionality:** A floating action button (“+” icon) is available for users to quickly add new habits to the list.
5. **Minimalist Interface:** The app features a clean, straightforward design focused on essential functions.
6. **Top Navigation Bar:** The top navigation bar includes icons for accessing a calendar view, app settings, and notifications.

Design

1. **Home Screen:** The home screen features a clean, minimalist layout with a scrollable list of active habits. Each habit is presented in a card format, displaying the habit name, a streak counter to track progress, and a checkbox to mark completion. This layout ensures that users can quickly view and manage their daily habits.
2. **Themes:** The app offers both light and dark themes, allowing users to choose according to their preferences or ambient lighting conditions. The colour schemes are subtle and designed to minimize eye strain, providing a comfortable reading and interaction experience.
3. **Navigation:** A simple top navigation bar enables quick access to essential features such as the calendar, settings, and notifications. The bar is discreet yet always available, ensuring easy navigation without cluttering the screen.
4. **Floating Action Button:** Positioned at the bottom-right of the screen, the floating action button serves as a quick and accessible method for adding new habits. This button is prominently displayed, ensuring users can easily track and manage their goals with minimal effort.
5. **User-Friendly Interactions:** The app incorporates intuitive animations and transitions that guide users smoothly through the app. The colour-coding system for habit categories, along with progress indicators, offers clear visual cues that make the experience more engaging and motivating.

Screenshots of Frontend





Habits



Add a habit with the button below!



12:25



Add Habit

Name

read

Frequency

Daily



Reminder

None



1. Introduction ...

More



q w e r t y u i o p

a s d f g h j k l



z

x

c

v

b

n

m



?123

,



.



12:26

3G



Add Habit

Name

water

Frequency

Daily

Daily

Weekly

12



Notifications

In order for Habits to send you reminder notifications, it requires notification permissions.

Dismiss

Confirm





Add Habit

Name

water

Frequency

Daily



Reminder

Every day



Time

12:00 PM






Habits



Today

water 

1 habit completed already...





Logbook



December 2024



M

T

W

T

F

S

S

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

26

27

28

29

30

31

read

water



Habits



Today

read



water





Settings



Home

Display statistic on home

Show a statistic on each habit on the home screen. Shows streaks by default.



Show scores on home

Show scores on the home screen instead of streaks.



Show completed subtitle on home

Show a completed habit count on the home screen.



Backup

Export database

Export the database to a file for backup.

Import database

Import a database file. Please note this will erase all existing data.

Code Snippets

```
1 // Top-level build file where you can add configuration options common to all sub-projects/modules.
2 plugins {
3     alias libs.plugins.android.application apply false
4     alias libs.plugins.android.library apply false
5     alias libs.plugins.kotlin.android apply false
6     alias libs.plugins.hilt apply false
7     alias libs.plugins.ksp apply false
8     alias libs.plugins.kapt apply false
9     alias libs.plugins.compose.compiler apply false
10 }
```

```
1 plugins {
2     alias libs.plugins.android.application
3     alias libs.plugins.kotlin.android
4     alias libs.plugins.kapt
5     alias libs.plugins.hilt
6     alias libs.plugins.ksp
7     alias libs.plugins.compose.compiler
8 }
9
10 android {
11     namespace 'com.willbsp.habits'
12     compileSdk libs.versions.compileSdk.get().toInteger()
13
14     defaultConfig { DefaultConfig it ->
15         applicationId "com.willbsp.habits"
16         minSdk libs.versions.minSdk.get().toInteger()
17         targetSdk libs.versions.targetSdk.get().toInteger()
18         versionCode 5
19         versionName "1.2.2"
20
21         testInstrumentationRunner "com.willbsp.habits.CustomTestRunner"
22         vectorDrawables { VectorDrawablesOptions it ->
23             useSupportLibrary true
24         }
25     }
```

```

buildTypes { NamedDomainObjectContainer<BuildType> it ->
    release {
        minifyEnabled true
        debuggable false
        proguardFiles getDefaultProguardFile('proguard-android-optimize.txt'), 'proguard-rules.pro'
    }
    debug {
        applicationIdSuffix ".debug"
        debuggable true
        minifyEnabled false
    }
}

compileOptions { CompileOptions it ->
    sourceCompatibility JavaVersion.VERSION_17
    targetCompatibility JavaVersion.VERSION_17
}

kotlinOptions {
    jvmTarget = '17'
}

buildFeatures { ApplicationBuildFeatures it ->
    compose true
    buildConfig true
}

composeOptions { ComposeOptions it ->
    kotlinCompilerExtensionVersion libs.versions.androidxComposeCompiler.get()
}

```

```

1  <?xml version="1.0" encoding="utf-8"?>
2  <manifest xmlns:android="http://schemas.android.com/apk/res/android">
3
4      <application>
5          <activity
6              android:name=".HiltComponentActivity"
7              android:exported="true" />
8      </application>
9
10 </manifest>

```

```
pluginManagement { PluginManagementSpec it ->
    repositories { RepositoryHandler it ->
        google()
        mavenCentral()
        gradlePluginPortal()
    }
}

dependencyResolutionManagement { DependencyResolutionManagement it ->
    repositoriesMode.set(RepositoriesMode.FAIL_ON_PROJECT_REPOS)
    repositories { RepositoryHandler it ->
        google()
        mavenCentral()
    }
}

rootProject.name = "Habits"
include ':app'
include ':shared-test'
```