CSCI4100U: Mobile Devices
Project Proposal

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1 Overview

The purpose of this document is to propose the development of a mobile application titled **Task Bell**. This app offers an effective and local solution for shift-workers as well as individuals requiring multitasking or productivity management assistance.

2 Core Features

This section outlines the key features and functionalities of the proposed mobile application.

- **Alarm Grouping:**
  The ability to create a hierarchical alarm grouping structure, similar to a directory tree, that can be used to set multiple alarms at once. Settings of a parent group can be applied locally or propagated to all child groups. Individual groups or alarms can optionally be set to 'inheritance blocking mode' making them immune from any propagated settings.
- **Date/Time - Based Recurrence Settings:**
  The user will be able to set recurrence patterns for their alarms/groups based on calendar dates and times of the day. There will also be the inclusion of a relative adjustment feature that can shift all times based on the time of the first alarm/timer of the group.
- **Location - Based Recurrence Settings:**
  The user can choose to make their alarms/groups recur based on their location.
- **Alarm Disabling Tasks:**
  The alarms/groups can be set so that tasks such as object/QR code scanning or puzzle completion are required before any particular alarm can be disabled.
- **Timer/Stopwatch Support:**
  The app will allow standard stopwatch and timer support including multiple stopwatches and/or timers running simultaneously.

3 Technical Specifications

The app will be built using the following technologies:

- **Programming Languages:** Dart
- **Frameworks:** Flutter
- **Platforms:** Android platform
- **Database:** SQLite
- **APIs:** Fused Location Provider API, Google Maps Android API, Geofencing API, Dart:Core - DateTime API

4 Work Distribution

The planned workload distribution is as follows:

Team Member	**Task**
Syed Naqvi	Location Based Recurrence and Disabling Tasks
Evan Goldenberg	Timer/Stopwatch and Data/Time Recurrence
Brendan Murray	Alarm Grouping and Date/Time Recurrence

5 UML Diagrams

The following UML diagrams are intended to provide an overview of the application design:

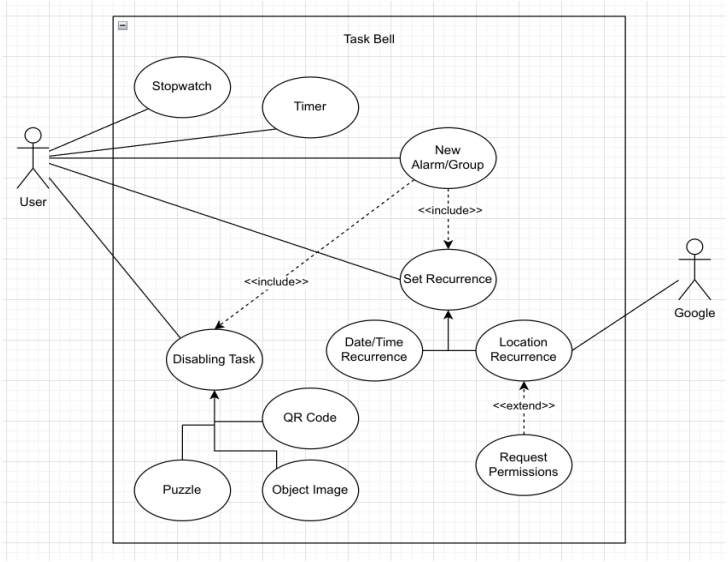

Figure 1: Use Case Diagram

6 Mockup User Interface

This is a rough overview of the proposed user-interface: