**Advanced Languages 1**

Project Proposal

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# **Problem Elicitation**

## Introduction

The aim of this mobile app is to help users manage their schedule, free time, and daily routine effectively and efficiently. The app will assist the user in keeping track of their daily tasks, appointments, meetings, and other aspects of everyday life. This can help users ensure they never miss a commitment. The app will provide an intuitive interface that is simple to use and navigate, yet powerful enough to handle the user's scheduling needs. This app doesn’t just want to make upcoming events easier to manage, this app wants to help make everything from upcoming events to your daily routine easier to manage and keep track of.

## Problem Statement

Many people struggle to keep track of their daily schedule due to the fast-paced nature of modern life. They often forget about important appointments, meetings, or tasks, leading to missed opportunities, poor time management, and increased stress levels. Many apps that aim to resolve this issue have their downfalls. Many of them focus on either your day-to-day task or upcoming events. The challenge is to design a mobile app that helps users stay on top of not only upcoming events but with their day-to-day routine, ensuring they never miss an important event or a grocery store run.

## Goals

* + To provide users with a simple, yet effective way to manage their daily schedule.
  + To enable users to add, edit, and delete appointments, meetings, and other tasks with ease.
  + To provide notifications for upcoming tasks.
  + To allow users more control over when and how they receive notifications.
  + To enable users to view their schedule in a calendar format, providing them with a comprehensive overview of their day, week, or month.
  + To provide users with an intuitive interface that is easy to use and navigate.
  + To provide users with a simple way to see when they have available free time to schedule other tasks, reminders, or events.

## Constraints

* The app must be available on Android platforms.
* The app must be able to work offline, in case of poor network connectivity.
* The app must be secure, protecting the user's data from unauthorized access.
* The app must be fast, providing users with quick access to their schedule information.
* The app must be developed free of monetary cost.
* The app must be easy to use and offer users from all walks of life with a simple and understandable interface.

## Target User

The target user for this app is anyone who needs assistance in keeping track of their schedule, upcoming events, meetings, and more; from CEOs to stay-at-home parents this app is developed to help everyone. The app is designed to meet the scheduling needs of people with varying levels of technical proficiency, making it suitable for a wide range of users.

# **Current State of Project**

## Implemented Features

* Create, Read, Update, and Delete operations for UserTask.
  + Backend and Interface
* Create, Read, Update, and Delete operations for Notes.
  + Backend and Interface
* View Completed Task
* 2 different types of UserTask; Recurring and Non-Recurring
* View your non-recurring task on the main ‘Tasks’ Page
* View your recurring task, or your daily schedule, on the ‘My Schedule’ page.
* Filter/reorder the order in which your Task are shown on both the ‘Tasks’ and ‘My Schedule’ pages.
* Create notes and link them to any non-recurring task to keep you from forgetting anything about your upcoming task.
* Calendar View – See your schedule on a calendar.
* Calendar Day View – View all tasks for a selected day.
* Notifications – Gives you more control over when and how you are notified.

## Technical Features

* Dependency Injection
* Entity Framework Core with SQLite
* Uses .NET MAUI allowing for cross platform release later.

## Graphical user interface, application, Teams Description automatically generatedGraphical user interface, text, application Description automatically generatedImplemented Primary Pages In their current state

Tasks Page (MainPage) – When the user starts the app, this is the first page they will see. From the tasks page they will be able to create new task, navigate to the completed task page, and view all upcoming non-recurring tasks. Users are also able to filter/reorder the tasks.

My Schedule Page (DailySchedulePage) – From here, the user can view and access all their recurring tasks. As with the Tasks Page, Users can Filter/Reorder the tasks.

A screenshot of a computer

Description automatically generated with low confidenceA picture containing text

Description automatically generated

Calendar View Page – On the Calendar Page the user can see how many tasks they have for each day. They can then click on this and view their schedule for that day.

Notes Page – On the Notes page a user can view any notes they’ve created for any upcoming task as well as navigate to the New Note page.

Graphical user interface

Description automatically generatedGraphical user interface, text

Description automatically generated

New Notes Page – On the notes page users can create new notes and select a related task.

New Task Page – On the New task page, which can be accessed from the Tasks Page, allows users to create both recurring and non-recurring task.

# **Required Software Development Skills**

* Dependency Injection
* Entity Framework Core
* C#
* Mental Fortitude
* .NET 6.0+
* .NET MAUI Framework
* Local Notifications for Android
* Android Mobile App Development
* XMAL GUI Design
* Asynchronous Programming

# **Development Schedule**

### February 19th – 25th

* + Complete the following ‘Work in Progress’ task.
    - Separate ToDoTask into UserTask.Recurring and UserTask.NonRecurring
      * This requires changing all references of ToDoTask to reference UserTask and its properties.
    - Restructure Notification System to work with UserTask.
    - For recurring task add a days of the week selection and use the recurring interval for how many times a day they want to receive a notification
    - For non-recurring tasks, add the option to add remove start date or due date.

### February 26th – March 4th

* + Add Free Time Blocks to daily schedule page. This will show the user when they have free time each day.
  + Add ability to schedule task by clicking on a free time block and selecting the amount of time you want to dedicate to that task.

### March 5th – 11th

* + Improve Interface
    - Calendar View Page Interface improvements
    - Calendar Day View Page Interface Improvements
    - Task View Page Interface Improvements

### March 12th – 18th

* + Spring Break – Use app over spring break for testing.

### March 19th – 25th

* + Bug Fixes
  + Performance Improvements (if needed)
    - Better Memory Management
  + Code cleanup
    - Add comments if needed.

### March 26th – April 1st

* + Add Ability to change the displayed month on the Calendar View page.
  + Add a check button on all non-recurring tasks to allow user to quickly mark task as completed.
  + Add Location Property to UserTask

### April 2nd – 8th

* + Use app in day-to-day activities to test.

### April 9th – 15th

* + Interface improvements
  + Bug Fixes

### April 16th – 22nd

* + Complete Release Beta Release

# **Expected Outcome Before 6th week of Course**

I aim to have a stable and usable application that demonstrates its core functionality and can be used to effectively manage schedules, daily routines, and upcoming events. The focus will be on ensuring that the app operates without any significant issues and that users can experience its features and capabilities in a manner that showcases the benefit the app can have on a user’s day to day life. I expect to be able to test the application myself over spring break to find any issues that need to be resolved. After this point the focus will shift to fixing and improving all the features that have been implemented up to this point.