University of Brighton

Computer Science (Games)

Individual Project - CI301

Project Proposal

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Contents

1 Project Proposal - Smart alarm

1.1 The Problem

As daily lives get more hectic and waking up is last thing most people would like to do, I would like to develop an app that would try to make both more manageable.

Currently there are hundreds of alarm apps available on 'the Google Play store' and with Google now many people have access to their own personal digital assistant, but neither of these have been combined.

Alarm apps that can connect to 'smart-bulbs' is even less common with only a handful able to use their functionality.

1.2 Introduction

My idea would be to create an alarm app that would allow users to have their day in the palm of their hands for when they wake up.

1.2.1 Problem

- There is no alarm app that also utilises calendars, reminders or the weather.
- Few apps can interact with smart-bulbs

1.2.2 Solution

- I will develop an android app that will be able to combine a users schedule and weather into a single app and allow for visual and audio output of information the user would like.

- The Alarm app will also be able to connect to smart-bulbs allowing for an artificial sunrise believed to help in a more graceful awakening.

1.3 How?

I have stated what the problem is and what I intend to do about it, but how will I bring this application to fruition?

1.3.1 Platform

I will be developing primarily for the Android platform. This is due to multiple factors;

1) Android is currently the most widely adopted platform globally.
2) Development for Android is free.
3) I possess/have access to multiple different Android devices allowing for a broader range of testing on physical devices.

1.3.2 Implementation

By using Android studio the development suite based on Ideas Intellij development platform I will be able to write the application in Java utilising my previous education over the previous years of University.

The Android studio provides the Android libraries, virtual device emulation and easy live device usage making development simpler.

1.3.3 Challenges

There will be many challenges to face while developing this app such as;

- Utilising the smart-bulb API(s).
- The fractured nature of Android could make development more difficult.
- Although Android is based on Java, it has many of its own libraries that I will need to learn.
- The app will involve requesting data from other services (calendar) that the user may not provide and I will need to handle gracefully.

1.3.4 Deliverables

- Daily alarm with schedules, recurrence, customisable alarm tone.
- Able to display appointments and weather in an attractive and simple fashion.
- On disabling the alarm to read out schedule and offer suggestions. For example, if an umbrella/coat would be needed in the event of rain, or to leave within a set time to arrive at an appointment where the location has been entered.
- To gradually increase the brightness of a smart-bulb to simulate the effect of sunrise. The app must also be able to control the light(s) in other ways such as turning them off at night/in the morning.

1.3.5 Alternatives and competition

For what my app intends to do there is one very good application available currently in the Play store, this app is called 'Sleep as Android'. It contains all of the functionality of my app including many more and is designed in a way that fits the Android design guidelines well.

The issue I find is there is too much and many features are either not very effective such as the feature to track your sleep by placing your phone on the bed and leaving it running over night, this doesn't work for most mattresses and only older spring style. There is also the functionality to set QR codes and place them around your house, such as in the bathroom and to turn off

the alarm you must get up and scan the QR code; this sounds like quite a good idea but would leave rather ugly QR codes around the house and for families or couples could be very annoying.

Sleep as Android also doesn't include the calendar and to-do list integration that I intend to include, nor does it have weather forecasts or text to speech functionality.

This app is very good example of how I could design my app and to not only fit the ecosystem I am developing for but also make it suitable for it's purpose such as the dark background/theme which would be suitable for night-time and low light use.

1.4 Conclusion

The problem I have found with the current alarm apps available is their lack of time management or how helpful they are to the user. By developing an alarm app that can provide integration with calendars and weather it will provide relevant and useful information first thing in the morning so the user can know everything they need for the day ahead.

My app should be very useful to many users, including myself and with plenty of customisation should make for a more pleasant morning experience.