University of Brighton

Computer Science (Games)

Individual Project - CI301

Interim Planning and Investigation Report

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1 Project Scope

1.1 Aims and objectives

What I will be developing over the upcoming months is an app to help users get out of bed easier in the morning in a useful and information rich way. By introducing Smartbulb functionality the users can be gently woken in the mornings and provide a more natural and pleasant awakening. I will develop the app using the knowledge and methodologies I have gained over my past years of learning to produce a fully functional and well developed app. I will be ensuring functionality and good user interface.

My aims are:

- Produce an alarm app with all the functionality users are used to.
- Integrate Smartbulb functionality into the app to turn the light on in the morning with the alarm.
- To turn off the lights at night without having to get out of bed.
- Provide weather information for the day.
- Inform the user of their schedule for the day and upcoming events.
- Publish the application to the play store for download and use by others.

1.2 Stakeholders

I do not have a client that I am developing my application for and so do not have a pre-defined user base or stakeholders however, I have identified the following stakeholders:

- Myself - Not only am I developing the application making me a stakeholder, I am also very interested in home automation and waking up happy.
- My supervisor, Marcus Winter - By accepting to be my supervisor Marcus is also a stakeholder for my application, he will be providing

feedback and assistance through out development and will ultimately be grading me on my efforts.

- An expanding user base of smartbulbs - Although the market currently is small the cost of smartbulbs is decreasing making them more available to users.
- Anyone that uses an alarm - The largest stakeholder I have is anyone that uses an alarm, many use the alarm that comes on their phone and others use stand-alone alarm clocks. By investigating the most popular alarms used by people I will be able to get vital information on what makes for a good alarm and what I should avoid.

1.3 Communications

I will maintain contact with my project supervisor with monthly meetings where I intend to measure my progress against deadlines and goals, reflect on what progress has been made and address issues, challenges and for development advice to assist me successfully complete my project as planned.

Regular emails will also be used between meetings to keep in contact and keep my supervisor informed of what I intend to talk about and on my progress made.

1.4 Installation Process

By developing for Android I will be able to make the app installation process very simple by publishing it to the Play store. Apps published to the Play store must adhere to guidelines and a certain level of quality or potentially be rejected. To install an app from the Play store you can simply select the option to install the app and it will be downloaded and installed seamlessly.

I will be ensuring to develop to a high standard and ensure there are no issues, bugs or flaws with my application. By developing for the KitKat version I will be able to support over an 80% market share. Android 2016a By supporting versions KitKat 4.4 and greater a majority of people will be able to use my

application and version 4.4 should have all the features I will require making it unnecessary to omit users on older versions of the Android platform.

1.5 Quality checks

During development I will ensure to maintain my code and follow the principles that have been taught to me and that I have learnt and will learn, in doing so my code should be easily maintainable, readable and extendable for possible extensions and stretch goals.

Testing will be very important and by using the Android emulator to test on KitKat and my own physical device for a physical and faster testing experience I will be able to test features as I implement them to ensure they function correctly before continuing.

I will develop a test plan as I continue to develop my application to allow me to note issues and ensure previous functionality has not been effected by further developments.

1.6 How will I measure success?

Due to the relatively short time frame for planning, design, development and refinement my main means of measuring the success of my project will be key performance indicators. My key performance indicators are outlined below:

- Alarm functionality
- Smartbulb integration
- Weather functionality
- Design
- Calendar Integration (Stretch)
- Text to speech (Stretch)
- Publishing to the Play store (Stretch)

If I am unable to produce a working alarm app with smartbulb functionality I will have failed to achieve what I intended to develop and so these are

my highest priority. Weather functionality would expand my application into more than just an alarm app and so is a key aspect of my project goal. Design can be adapted and refined independent of the core functionality of my application and will be progressively worked upon, provided I follow the design guidelines set out by the Android development team Android 2016b the design should be fully functional and fit within the platform and should only require minor usage adjustments such as colour scheme for colour blind users and button placement to improve upon usability.

2 Specification

2.1 Deliverables

- activities must be associated with products
- products may be intermediate or end deliverables
- products may be technical, management or quality
- products will form a hierarchy – some MUST be accomplished before others can be undertaken

2.1.1 Stages

- A schedule of activites

2.1.2 Risk Analysis

There are many risks present with any kind of project, I will be identifying the most relevant and predictable risks and assessing the impact that could be caused. By identifying the risks posed I can attempt to avoid and mitigate these risks and plan for those that I can't control.

Table 1: List of risks.

Risks	Impact level	Reaction
Sickness	Low	Avoid getting ill. I
Data loss	Low	Mitigate risk with multiple backups and version control.
Project complexity	Medium	Avoid making it too complex, or too simple.
Scope creep	Low	Avoid implementing features not outlined.
Communication with supervisor	Low	Mitigate by keeping in regular contact.
Learning curve	Medium	Mitigation by working with what I know

Sickness Besides avoiding getting colds and flu which pose little risk to the project, the only other form of impact would be broken bones etc.. This would impact my learning however I would continue

Data Loss I have my data backed up on two devices, a local NAS and the online service MEGA sync MEGA Sync 2016

Project complexity My project has been agreed by my supervisor and so I believe it is neither too complex or too simple for the grade I would like to obtain. I feel I have made my project achievable and would like to add more functionality as time permitted.

Scope Creep It is very possible for scope creep to occur with my project however I will be ensuring I complete all the features and functionality outlined within my project proposal before attempting to expand/improve upon the application to ensure I have a fully working project.

Communication By keeping in regular contact with my superviosr I intend to be able to get regular feedback on my performance and assistance if I need help. Lack of communication could easily lead to a gap in what I produce and the expectations of my supervisor and could negatively impact my final grade.

Learning Curve I will be devoloping in the Java language and for a device that I am familiar with. Although it can be tempting to work on a project in a new language or try to implement too many features in an attempt to gain a high mark, I feel it is more important to finalise the application and have a fully working demonstration for submission.

3 Product Description

3.1 Name and Identity

3.2 Purpose

- derivation of the product
- the composition of the product
- the form of the product
- the relevant standards
- the quality criteria that define whether the product is acceptable

4 Methodology

4.1 Overview of types of methodogy

- State the types and why they may or may not be suitable.

groups of methods or techniques grouped into methodologies RAD Rapid Application Development – emphasis on quickly producing prototypes of software for users to evaluate. Well suited (although not limited to) developing software that is driven by user interface requirements Agile - incremental, iterative work cadences, known as sprints `http://agilemethodology.org/` `http://scrumreferencecard.com/ScrumReferenceCard.pdf` Waterfall – one shot or once through model, natural milestones at the end of each phase, rigorous specification and planning Spiral – the system to be implemented is considered in more detail in each sweep, based on the unique risk patterns of a given project Time boxing - A timebox is a previously agreed period of time during which a person or a team works steadily towards completion of some goal. Rather than allow work to continue until the goal is reached, and evaluating the time taken, the timebox approach consists of stopping work when the time limit is reached and evaluating what was accomplished.

References

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