Project Kaka: Mobile OCR and GPS

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ABSTRACT

This poster presents a summary of a 3rd year Information Systems internship that was completed at a large software development firm in Christchurch. The student developed a smart phone application as a proof concept for part of a project that the firm was involved in. The student who completed the internship was completing a double major in Information Systems and Marketing.

The poster presents the aims of the project that was completed, the processes that were undertaken (including the "sprints") and the overall project outcomes.

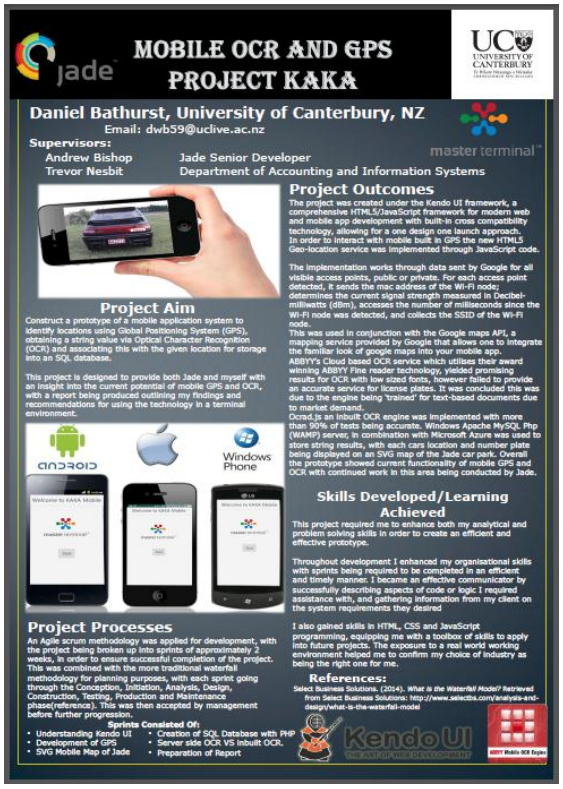
The skills developed and learning achieved are also presented with these including enhanced analytical and programming skills, enhanced organizational skills, more effective communication skills and increased technical skills in HTML, CSS and Javascript.

Categories and Subject Descriptors

D.2.2 [**Software Engineering]**: Design Tools and Techniques – *evolutional prototyping*.

Keywords

Mobile Development, Internship, Prototyping, Proof of Concept



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1. INTRODUCTION and BACKGROUND

Students completing the Information Systems major in the Bachelor of Commerce at the University of Canterbury are able to complete a 30 point internship course (INFO330 – Applied Information Systems Project), that requires the student to complete a 200 hour work based project and complete other associated academic work. This poster presents an outline of the project, the processes that were undertaken as well as the learning outcomes for the student.

The internship was completed at JADE Software Development Corporation with the aim of developing a smart phone application that used GPS to identify the locations of cars parked in a car park. The application that was developed was a 'proof of concept' for part of a much larger system that is developed and maintained by JADE.

2. THE PROJECT

The aim of the project was to construct a prototype of a mobile application system to identify locations using Global Positioning System (GPS). The idea was that a string containing the registration number of a car could be obtained using Optical Character Recognition (OCR) and associating this with the given location for storage in an SQL database.

This would provide insight into the current potential of mobile GPS and OCR that could be used to inform decisions about the use of these technologies as part of a larger system. This is consistent with the ideas of using the development of a prototype to discover user requirements [3],[5], and has been used as a model in a range of other student internship or capstone projects [1],[4].

The project was completed using an agile methodology and was made up of a number of two week sprints. This approach was combined with aspects of the more traditional waterfall method within each sprint.

The sprints used are shown in Table 1.

Table 1. Sprints Used in Project

Understanding of Keno UI
Development of GPS
SVG Mobile Map of JADE
Creation of SQL Database with PHP
Server Side OCR vs Inbuilt OCR
Preparation of Report

3. STUDENT LEARNING

The student learning achieved in the project covers a wide field of technical skills and soft skills. The technical skills developed and enhanced are shown in Table 2.

Table 2. Technical Skills Developed and Enhanced

Use of Keno UI
Development of GPS
HTML
CSS
PHP
Javascript

The soft skills developed and enhanced are shown in Table 3.

Table 3. Soft Skills Developed and Enhanced

Organisational Skills
Communication Skills
Project Management

4. CONCLUSIONS

Overall the project was successfully completed due to a number of factors. Firstly it provided useful information to the host organisation regarding the use of mobile OCR and GPS that could be used as part of other systems moving into the future.

This project provides what could be a good model for student internships/projects where a generic problem with a generic solution is identified (in this case the use of mobile OCR and GPS) so that the outcome has applicability to a range of contexts.

The project also provided valuable experience for the student in that it enabled the application of content from earlier courses to be applied in a real world setting and for the development and enhancement of a range of technical and soft skills. These factors are consistent with what has been identified as being successful internship or capstone courses by a number of writers [1],[2],[4].

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