About Me Project

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| Southern Cross University  Unit: ISY10221 Computing Project I |



Project Supervisor: Paul Woods

Project Client: Jean Stevens on behalf of Elucidate

Project Team: Jennifer Doherty and Stephen Manning

# Executive Summary

The About Me Project is a cross-platform app that aims to elucidate the needs of individuals with disabilities and consolidate the communications of those involved in their care.

To determine if the project should go ahead with the features that were identified in initial discussions with the client, the project team conducted a feasibility analysis which assessed four broad factors: technical, skill, time/budget, and strategic feasibility.

The analysis highlighted two key risks – not having enough time to become adept with the required development tools, and experiencing compatibility issues with older or non-mainstream browsers and operating systems. Recommendations are given to mitigate these risks.

A weighted score was calculated for each factor, with the sums of weighted scores being used to determine the total feasibility of the project. The sums of weighted scores were within the recommended range to confirm the project’s feasibility. It is therefore recommended that the project continue with the current list of features.

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# Project Overview

Elucidate is a small, private company that provides services and education for individuals with disabilities and organisations that employ, provide services for, or educate those individuals (Elucidate 2015).

Communicating the specific, changing needs of individuals with the many people involved in their care can be a challenge, and the client has personally witnessed many cases where good intentions have been undermined by a lack of clear communication.

The About Me Project (AMP) is a cross-platform app that aims to address this problem by helping to elucidate the needs of individuals with disabilities and to consolidate the communications of those involved in their care. The client, Jean Stevens (on behalf of Elucidate), is a researcher and teacher who is passionate about special needs education and making a difference, and she has a clear vision of the app’s features and capabilities.

This report analyses the viability of the project in terms of technical, skill, time, budget, and strategic factors, with an emphasis on identifying potential problems and determining if the project should go ahead. The report also seeks to identify points of project failure and to recommend proactive steps to reduce the risk of failure.

# Feasibility Study

## Overview

In order to assess the feasibility of the AMP Project, four common factors that arise in software projects were assessed:

* Technical Feasibility
* Skill Feasibility
* Time/Budget Feasibility
* Strategic Feasibility

A number of elements were identified for each factor, with each element being assigned a weight out of 1 to indicate subjective importance. For example, high speed internet access was identified as a major element of Technical Feasibility, and given a weight of 0.2, which was heavy relative to other technical elements.

After assigning weights, each element was assigned a score out of ten to indicate its likelihood or availability, before the score and weight were multiplied to give a weighted score.

The sum of weighted scores for each category was then plotted on a feasibility chart.

Please refer to Appendix 1, Feasibility Matrices for feasibility matrices, and to Appendix 2, Feasibility Chart for a final feasibility chart.

## Analysis

### Technical Feasibility

Technical feasibility refers to the availability and functionality of the technologies used to develop the project (Ambler 2014). In assessing the technical feasibility of the AMP Project, the below factors were considered to be relevant:

* High speed internet access
* Good telephone reception
* Software for implementation
* Software for development
* Hardware for implementation
* Hardware for development
* Operating system

On the development side, Jennifer and Stephen reside in geographically dispersed locations and aren’t close to Paul (the supervisor) or Jean (the client). They are therefore reliant upon online tools and telephone calls for communication and collaboration. For this reason, high speed internet access and good telephone reception were given the highest weights or importance, relative to other technical factors.

Stephen has an unreliable 1Mbps ADSL connection at home; he is able to use a 30Mb connection at his workplace, but only during business hours or after work, dependent upon work commitments. His connection is the weakest link (as Jennifer has constant access to a 12Mbps connection) and he estimates that the work network will be available for project use around 70% of the time. High speed internet access has therefore been given a score of 7.

Likewise, Stephen and Jennifer have experienced telephone reception issues whilst interviewing Jean. Whilst the problem hasn’t been overly bad, it’s been noticeable enough to give a score of 7 to the factor of good telephone reception.

The remaining factors were given equal, lesser weights as they aren’t as critical as the above. On the implementation side, the solution aims to be device-agnostic, so in theory it shouldn’t matter whether end users are using, for example, iPhones or Androids or laptops. Nor should it matter what software they’re running on these devices. In practice, issues might arise with older or non-standard software, but the risk of problems arising in these cases can be mitigated by agreeing on a list of supported browsers/browser versions and operating systems/operating system versions with the client. For these reasons, implementation hardware and software scored 10.

Jennifer and Stephen are using their own personal computers as development hardware, but they aren’t dependent on these devices – any machine or operating system could be used, and availability is not an issue. Likewise, development software, which includes Cordova and Netbeans, is available as a free download and can be installed on any machine. Development hardware and software were both given a score of 10.

Please refer to Appendix 1, Technical Feasibility Matrix for the technical feasibility matrix.

### Skill Level Feasibility

The following factors were deemed relevant for skill level feasibility:

* Project planning
* Project management
* Development environment
* Personnel management
* Operating system
* Hardware environment

Project planning and project management were given a heavy weight as both factors are essential for a successful project that’s delivered on-scope and on-schedule. Jennifer has extensive experience in IT Project Management in her career, and Stephen has also managed a number of IT projects. Project planning and project management have therefore been given scores of 10.

Development environment was also given a relatively heavy weight, as without a thorough knowledge of the development environments and software languages, the project team’s efforts at implementation will be undermined.

The project team have identified the Cordova cross-development platform, and the jQuery Mobile, PHP and MySQL languages as being key technology requirements. They are not, however, adept with these technologies and must set time aside to master them in the implementation phase. Whilst they both have a proven ability to quickly learn new programming languages and Integrated Development Environments, there is a limited amount of time in which to develop the project, as both Jennifer and Stephen have full-time jobs and will be taking additional subjects during the implementation phase next semester. To mitigate the risk of not having enough time to become adept in the required skills, extra time has been allocated to this task towards the end of Semester 1 (please refer to Gantt Chart). Meanwhile, to factor in this uncertainty, the development environment factor has been given a score of 7.

Personnel management was deemed to be less of a factor than the above, as both Jennifer and Stephen are highly motivated and have excellent academic records. Operating system and hardware environment were likewise considered to be less important factors in relation to the above.

Please refer to Appendix 1, Skill Level Feasibility Matrix for the feasibility matrix for skill levels.

### Time/Budget Feasibility

In assessing the time/budget feasibility, it became apparent that one factor was paramount:

* Time to complete

Other relevant factors were:

* Hardware cost – development
* Software cost – development
* Hardware cost – implementation
* Software cost – implementation
* Education cost – books

Hardware and software costs were deemed to be less important than time to complete, and were therefore given smaller weights. The project team has free access to a development server hosted by Southern Cross University and already own the computers they’ll need to develop the software solution. The tools they’ll be using are either free (e.g., Cordova IDE) or can be purchased for a small cost (e.g., Balsamiq prototyping software). Likewise, the books they’ve purchased to learn mobile development (e.g., jQuery and Cordova books) are of insignificant cost. Given the free or low-cost of these factors, perfect scores were awarded.

However, time was awarded a lower score of 70%, as a fixed period of two semesters has been imposed upon the project by the supervisor. This time constraint is made tighter by the fact of both team members having full-time jobs, and both members planning to take additional subjects during the implementation phase next semester.

Please refer to Appendix 1, Time/Budget Feasibility Matrix for the feasibility matrix for time/budget.

### Strategic Feasibility

The following factors were considered relevant in ascertaining strategic feasibility:

* Improved decision making
* Client satisfaction
* Information accuracy
* Report timeliness
* Improve competitive advantage

Client satisfaction was considered to be of the utmost importance and given a relatively heavy weight of 0.3, as if the software doesn’t do what the user needs, it hasn’t fulfilled its existential purpose. A score of 8 was given to indicate the high possibility of achieving client satisfaction. Both Jennifer and Stephen have a proven record of delivering good projects on time and achieving high grades, and both are mature age students with life experience and workplace skills at their disposal. Additionally, Jean is cognizant and understanding of the time constraints of the project, and the limits this imposes on the project scope.

Improved decision making was likewise considered to be a relatively important factor, and given a weight of 0.3. The ability to develop stronger decision making processes is essential for the success of the project, given the challenges that might occur with time and learning new languages and development environments.

The factor of improved decision making was awarded a score of 90% as it’s probably something that the project team are capable of. For a number years, they have both worked in challenging, busy jobs that have required them to adapt to business conditions by improving their decision-making process.

Please refer to Appendix 1, Strategic Feasibility Matrix for the strategic feasibility matrix.

# Recommendations

Having considered technical, skill, time, budget, and strategic factors and having identified potential problems, two recommendations can be made.

Recommendation 1

To mitigate the risk of issues arising with older or non-standard software, it is recommended that the development team agree on a list of supported browsers/browser versions and operating systems/operating system versions with the client.

Recommendation 2

To mitigate the risk of Jennifer and Stephen not having enough time to become adept in the required skills (e.g., JQuery Mobile, PHP), it is recommended that extra time be allocated to this task towards the end of the analysis phase of the project (please refer to Gantt Chart).

## Feasibility Summary

After establishing the sum of weighted scores (SWS) for each category, a feasibility chart with SWS Analysis was constructed to provide a visual representation of the holistic feasibility of the project. Please refer to Appendix 2, Feasibility Chart for the feasibility chart. Each category of feasibility resides in the upper regions of the chart, affirming that the project is feasible given the current scope. It is therefore recommended that the scope be left untouched and that the project go ahead.

###### Appendices

* 1. Feasibility Matrices
     1. Technical Feasibility Matrix

|  |  |  |  |
| --- | --- | --- | --- |
| Technical | | | |
|  | *Weight* | *Score* | *Weighted Score* |
| High speed internet access | 0.2 | 7 | 1.4 |
| Good telephone reception | 0.2 | 7 | 1.4 |
| Software for implementation | 0.12 | 10 | 1.2 |
| Software for development | 0.12 | 10 | 1.2 |
| Hardware for implementation | 0.12 | 10 | 1.20 |
| Hardware for development | 0.12 | 10 | 1.20 |
| Operating system | 0.12 | 10 | 1.20 |
| **Sum of Weighted Scores** | | | **8.8** |

* + 1. Skill Level Feasibility Matrix

|  |  |  |  |
| --- | --- | --- | --- |
| Skill Level | | | |
|  | *Weight* | *Score* | *Weighted Score* |
| Project planning | 0.15 | 10 | 1.5 |
| Project management | 0.15 | 10 | 1.5 |
| Development environment | 0.3 | 7 | 2.1 |
| Personnel management | 0.13 | 10 | 1.33 |
| Operating system | 0.13 | 10 | 1.33 |
| Hardware environment | 0.13 | 10 | 1.33 |
| **Sum of Weighted Scores** | | | **9.1** |

* + 1. Time/Budget Feasibility Matrix

|  |  |  |  |
| --- | --- | --- | --- |
| Time/Budget | | | |
|  | *Weight* | *Score* | *Weighted Score* |
| Time to complete | 0.8 | 7 | 5.6 |
| Hardware cost – development | 0.04 | 10 | 0.4 |
| Software cost – development | 0.04 | 10 | 0.4 |
| Hardware cost – implementation | 0.04 | 10 | 0.4 |
| Software cost – implementation | 0.04 | 10 | 0.4 |
| Education cost – books | 0.04 | 10 | 0.4 |
| **Sum of Weighted Scores** | | | **7.6** |

* + 1. Strategic Feasibility Matrix

|  |  |  |  |
| --- | --- | --- | --- |
| Strategic | | | |
|  | *Weight* | *Score* | *Weighted Score* |
| Improved decision making | 0.3 | 9 | 2.7 |
| Client satisfaction | 0.3 | 8 | 2.4 |
| Information accuracy | 0.2 | 10 | 2 |
| Report timeliness | 0.1 | 10 | 1 |
| Improve competitive advantage | 0.1 | 10 | 1 |
| **Sum of Weighted Scores** | | | **9.1** |

* 1. Feasibility Chart
  2. References

Ambler, S 2014, *Justifying a Software Development Project*, Viewed 24 November 2016, <<http://www.ambysoft.com/essays/projectJustification.html>>.

Elucidate 2015, *About Elucidate*, Viewed 14 November 2016, <<http://www.elucidateinsight.com/about>>.