**Retail Web Turnkey**

Project Proposal

James Owens

Mark Gary Omadto

Tom Misikea

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**Executive Summary**

This IT7351 Project aims to design, develop and implement a Retail Web Turnkey, adhering to a set of requirements and specifications which were ascertained from the client.

The main, high-level requirements are

* Databases to manage both inventory and customer bookings.
* CSS (Cascading style sheets) driven media control. i.e.: photograph and other media uploads.
* Basic payment, banking and order management.
* Design and testing documentation.
* The final product must be New Zealand specific.

This project is primarily a research and implementation exercise, aiming to utilize pre-existing technologies in order to develop a Retail turnkey system, which can then be used by small business owners and administrators to obtain a web presence. As such, there is little in the way of strict requirements laid out by the client, and the project team has a lot of freedom in how the System can be developed.

The System itself should be easy to use from the end users perspective, with very little overhead in terms of required skills and knowledge needed to operate the system.

The project will be undertaken over a 14 week period, the entire duration of the second academic trimester.

The risks of the project are minimal, in that the only value at stake is the project team’s time. Cost is not an important factor, as there is no financial investment in the project which depends on it’s completion.

The project team is comprised of three students in their final years of study, this project being the last major hurdle in their path towards graduation. Each member of the team hopes to apply all that they have learned thus far in their degree programs, and with the successful completion of this project, and with their subsequent graduations, carry their acquired skills and project experience into the workforce.

**Project Personnel**

***Project Client***

Name: **Robert Sutcliffe**

Email: [robert.sutcliffe@weltec.ac.nz](mailto:robert.sutcliffe@weltec.ac.nz)

***Project Advisor***

Name: **Reeza Moosaei**

Email: [reza.moosa@weltec.ac.nz](mailto:reza.moosa@weltec.ac.nz)

[abdolreza.hajmoosaei@weltec.ac.nz](mailto:abdolreza.hajmoosaei@weltec.ac.nz)

***Project Team Members***

Name: **James Owens**

Email: [james.owens0101@gmail.com](mailto:james.owens0101@gmail.com)

***Phone: 022 047 5482***

Name: **Mark Gary Omadto**

Email: [markgary\_0120@yahoo.com](mailto:markgary_0120@yahoo.com)

Phone: 021 262 3789

Name: **Tom Misikea**

Email: [alias\_misikea@yahoo.co.nz](mailto:alias_misikea@yahoo.co.nz)

Phone: 022 170 8651

**The Opportunity Context**

The reason for undertaking the development of this project is to fill the market gap for small businesses without any web presence. Many small businesses can fall into two categories: service providers and small retail. Generally, these businesses are run by small teams of people, with limited resources and skill sets. Because of this, In New Zealand, anywhere between 40 and 50% of small and medium enterprises (SME’s) have little to no online presence.

The identified gap in the market, or the opportunity, would be an easy to operate and implement system which will allow small business owners and managers to create and operate websites.

In a modern business environment, there are a number benefits to having an online presence. Such as:

* Credibility
* Discoverability
* Relatability
* Flexibility

Studies have shown that businesses with online presences are thought to have a higher degree of credibility. This sense of credibility can almost offer a customer a feeling of security while dealing with a small business – which is of course beneficial as this can lead to future business.

Businesses who are easily discoverable, would logically see a higher amount of business. Previously, businesses conducted most of their advertising through print media or broadcasting over television or radio. While these remain valid tools for discoverability, they’ve been largely eclipsed by the internet in terms of reaching an audience.

Relatability, in the context of small businesses, is vital in fostering a positive relationship between the business and the customer. These relationships are useful in attracting and retaining new business from customers. Relatability is much easier to build with an online presence, as opposed to phone calls and flyer handouts.

Flexibility, in the business context, can refer to the degree at which a business can change to adapt to their business environment. For example, a retail business would need to provide a product catalogue to their potential customers, which if that catalogue is only available on printed media, the business is unable to change that catalogue to reflect their current inventory. However, the same business with a retail website would be able to provide their catalogue in a web page which is able to be updated as it’s being viewed, thus affording the business with a greater deal of flexibility.

The Client for this project would be the small business without an online presence, who believes that they could benefit from any number of the few concepts outlined previously, and more which haven’t been listed in the interest of brevity.

**Requirements**

**Technical Requirements**

The list of technical requirements are to ensure the functionality of the turnkey system. They outline both front-end and back-end functions of the system.

* Product databases for retail systems
* Booking systems for service providers
  + Business calendar module
* CSS driven media handling
* Simple payment, financial and banking elements
* Order Management
* CRM (Client Relationship Management), Client database

**Main Project Requirements**

The project requirements are outlined for the successful, satisfactory completion of the project.

* Design documentation
* Development documentation
* Cloud hosting
  + As this project is concerned with research and development of a web solution, hosting is required for testing and shipping of the deliverables.
* System testing
  + Methodology framework.
  + Testing documentation.
* Handover documentation
  + Training documentation for final handover to the client.
  + Next features list, containing items which may be added in further development iterations of the project, should the project continue in the hands of a future group.

**Team Requirements**

The team requirements ensure that the team conducts project business in a professional and concise manner.

* 450 hours for each team member.
* Ensure that the project is completed by the end of the academic trimester.
* Weekly progress reports alongside minutes and meeting agendas. Other project documentation may be submitted alongside

**Analysis**

The chosen development methodology for this project is going to be the **Agile Unified Process (AUP)**. AUP is an agile development methodology that builds on, and simplified the iterative Rational Unified Process.

The benefits of using an agile methodology is that they allow the overall project to be broken down into smaller, more manageable tasks – otherwise known as “sprints”.

A sprint can last from anywhere between two weeks to six months, though for our project, we’ll be limiting them to two-three weeks. Each sprint will be commenced with a meeting to define goals, and each sprint will be concluded with a meeting to verify that the goals of the sprint have been met. Over the duration of a sprint, there will also be short, ten to twenty minute discussions to go over what each team member hopes to achieve that day.

**Analysis**

**Benefits of the methodology:**

Agile methodologies have been adopted on a fairly wide scale in the software development industry thanks to how well they can track progress on a project. One of the more useful aspects of agile methodologies is the usage of Burndown charts. These charts are useful because they map the teams ‘velocity’ of their progress by charting the amount of work they’ve done, which can then be used to estimate completion times for sprints, and the overall project.

**How this methodology helps us:**

The main concept in agile development is sprints, which breaks the larger parts of a project down into smaller, more manageable and surmountable. Since our project has a strong emphasis on usability, it’s important that we’re able to showcase working vertical slices of the finished project to our client, where there’s basic functionality at all levels.

**Operational Cost Analysis:**

Due to the nature of this project being mostly research and integration/implementation, there are very few – if any, costs to undertake. The only costs that are foreseeable at this point in time would be software licenses or web hosting.

**Compatible Testing Methodologies:**

While independent testing methologies do exist, they aren’t compatible with Agile development methodologies. Since the Agile Unified Process has been chosen for this projects methodology, testing will be done throughout each development sprint, which eliminates the need for a formal testing ‘phase’ during the overall development of the Turnkey system.

**Approach**

The context for this project is of small businesses with no online presence, and the requirements of this project are to develop a turnkey framework to provide small businesses with the means to develop their personal business websites, and to provide training documentation and support to further facilitate the potential future clients and their web endeavours.

As outlined previously in the Opportunity Context section of this proposal, a number of benefits exist in having an online presence. They were:

* Credibility
* Discoverability
* Relatability
* Flexibility

The requirements for this project relate to what was covered in the context section in the following ways:

**Credibility**

With the turnkey system, clients will be able to build official and professional looking websites. This will allow them to foster and build credibility with their customers and market, which in turn ensures a level of client satisfaction, and discoverability based on that satisfaction.

**Discoverability**

Thanks to modern search engines, the internet is a consumers first port of call when searching for goods and services. Websites can be discovered based on a few keywords and other information such as location or demographic. What this means for discoverability in a small business sense, if a potential customer were to google specific retail businesses in their area, if the small business were to have a website, they’d easily be found in that google search. Where opposed to a small business without a website is much more difficult to find in the modern business world.

Our turnkey system would ensure that any small business who would decide to implement it could benefit from this modern paradigm of discoverability.

**Relatability**

Small, ‘mom and pop’ businesses have the luxury of fostering and building more personal relationships with their customer-base. The primary benefit of these personal relationships between customer and business is repeated purchases and business.

**Flexibility**

As outlined previously, presenting product and service catalogues to a customer on printed media, or through traditional means of advertising had the issue of not being easily updated, due to printing and other costs being a prohibiting factor, which limited flexibility in how a business could update their information to keep up with a changing business environment.

Our turnkey system hopes to provide easy and simple means for users to update their sites. CSS (cascading style sheets) are to be used to drive this functionality.

**Proposed System Outline**

Considering the analysis from the previous section and the requirements outlined by the Client, a Turnkey Web System (“System”) has been devised to be a solution.

In essence, the primary deliverable for this project will be a framework of tools for a small business, which will allow them to independently build and implement a website of their own, from a select series of features.

The System will be designed with two types of small business in mind: services and retail. As such, the following features will be developed/implemented for each business type:

**Retail web turnkey system**

The functionalities for this proposed type of system will be tailored towards online business and retail.

* Product catalogue listing functionality
  + The user should be about to easily list and update their website without delving into the HTML and CSS of the pages.
* Product and Inventory databases.

**Service web turnkey system**

The functionalities for this proposed system type will be tailored for services, with emphasis on customer relationship management.

* Customer information database.
* Business calendar module
  + Track when customers make appointments
  + Track the time between customer’s appointments

There are also a number of features which are shared between both types of Turnkey system, such as payment handling and page customization and addition. All of the outlined features are considered to be a part of the final, primary deliverable.

The system itself should be simple to use with little to no prior knowledge on website building and implementation.

These requirements will be outlined and expanded further during the next phase of the project, which will be research and prototyping.

**Deliverables**

For this project, the deliverables will be completed in a series of four phases, as outlined by the development methodology:

**Inception and Elaboration:**

1. Proposal submission
   1. Completion date: 07/08/2017

**Construction:**

1. Research and planning report submissions
   1. System research documentation, outlining the technologies selected for the system.
   2. System prototype.
2. Development phase
   1. Implementation of researched technologies.
   2. Testing documentation.

**Transition:**

1. Handover phase
   1. Final project reports and write-ups
   2. Turnkey documentation and training materials.

**Organisation of Project**

**Project Client:**

* Robert Sutcliffe

**Project Advisor:**

* Reza Moosaei

**Project development team:**

* James Owens
* Mark Omadto
* Tom Misikea

**RACI chart:**

The RACI chart outlines and tracks each staff members responsibility, accountability, consultation and how informed a party is for each project activity.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **ACTIVITY** | **Project Team Members** | | | **Client** | **Advisor** |
| Jame Owens | Mark Gary Omadto | Tom Misikea | Robert Sutcliffe | Reeza Moosaei |
| Requirements gathering | R | R | R | I |  |
| Organizing Documents | R | R | R |  |  |
| Progress Check | R | R | R |  |  |
| Client Meeting Plans | R | R | R | I |  |
| Project Management | R | R | R | I | C |
| Administrative Duties | R | R | R |  |  |

Key:

**R:** Responsible parties

**A:** Accountable parties

**C:** Consulted parties

**I:** Informed parties

**Management**

**Management Practice and Responsibilities**

1. **Regular Meetings**

The project team holds regular meetings, on as close to a weekly basis as possible. These meetings are planned in advance and more may be called as needed.

1. **Team Communication**

Communication within the team is mostly carried out via cellphone or in person.

1. **Version control and cloud storage**

*Git* is being used as the primary method of version control and file backup. This is achieved with a remote repository.

1. **Regular Backups and physical storage**

Secondary backups for all the documentation and files will achieved with physical storage devices.

1. **System testing**

The system is expected to be tested at every level of development. The testing itself will follow an agile compatible testing methodology.

1. **Change control**

The project requirements and deliverables may be changed as the project progresses, though significant change requests must be submitted as a change request document. See appendix 2 for the change request documentation.

**Plans and Procedures**

Retail Web Turnkey is non-budget project given by the client which will be created for the purpose of giving a small business the ability to manage a basic website that can be operated by non-technical knowledge personnel.

Through the project we are provided by the client to use any open source website creation tools to build the website.

(Project Gantt chart is attached under Appendices section on page 18)

**Staff**

The staff table lists each member of their staff with their role within the project and their estimated number of hours required for the successful completion of the project, with a margin of error between -5% and +10%.

|  |  |  |
| --- | --- | --- |
|  | **Name** | **Total Hours** |
| **Project Client** | Robert Sutcliffe | 10 Hours |
| **Project Advisor** | Reeza Moosaei | 15 Hours |
| **Project Team Members** | James Owens  Mark Gary Omadto  Tom Misikea | 450 Hours  450 Hours  450 Hours |

**Relevant Background Information**

Retail web turnkey project aimed is to provide simple and easy functionality for the non-technical knowledge personnel to use a website for their small business without having any difficulty customizing a web for their business needs.

The design implementation for the Retail Web Turnkey must have CRM and a booking service that keeps track of customers order histories which they then be notified when period of time had passed and haven’t made any purchases.

**Resources**

**Material Resource Requirements**

For this project, there are very few material requirements due to it’s nature of being mostly research and implementation of already existing technologies.

Git and GitHub

* Who
  + James Owens created and manages a remote repository hosted on GitHub.
* When
  + During the first week of the project, when the basic technological equipment for the project was being compiled.

Personal computers/laptops

* Who
  + Team members
* When
  + From the start of the project

**Resumes (CVs)**

Name: **James Owens** Email: [james.owens0101@gmail.com](mailto:james.owens0101@gmail.com) Phone: **022 047 5482**

**Personal Statement**

During my time at WelTec, I’ve learned a great deal about web technologies and programming, along with other IT skills, which I hope to implement and apply in this project. I hope that over the duration of this semester and project, I can work towards something which I can talk about during my future job hunting endeavourers.

**Interests**

My hobbies include: practising the guitar, cooking, reading, writing and computers.

**Skills**

* Project related skills
  + Applicable knowledge on web technologies
  + Programming and software engineering knowledge
* Personal skills
  + Organizational skills
  + Strong written and spoken communication skills

**Work experience**

February 2016 – March 2017 The Village Cafe

**Transferable skills:** Organization of tasks, ability to operate under pressure, people management.

**Education**

Wellington Institute of Technology (WelTec) 2013 – 2015, 2017 - (Ongoing)

* Bachelor of Information Technology – level 7

Kuranui College 2007 – 2011

* NCEA level 3
* NCEA level 2
* NCEA level 1

Name: **Mark Gary Omadto** Email: [markgary\_0120@yahoo.com](mailto:markgary_0120@yahoo.com) Phone: **0212623789**

**Personal Statement**

I have the skills and knowledge that are applicable for this project. I’m looking forward to learning and gaining new skills which are required in an organizational environment by working on a team and with a client with different ideas yet similar goal throughout this project.

**Interest**

I enjoy watching movies, fishing, playing sports such as basketball, badminton and chess where I became a champion back when I was studying on Tawa College. I also enjoy playing the guitar, learning new instruments, such as drum and bass guitar.

**Skills**

* Project Related Skills
  + HTML, CSS, PHP, JAVA Script
  + Experienced on how to use WampServer
* Team Related Skills
  + Able to prioritise tasks
  + Strong time management skills
  + Effective communication skills
  + Able to organize documentation

**Work Experience**

May 2012 – November 2012 CrestClean

**Job Role:** Cleaner

December 2012 – March 2013 Imperial Tobacco

**Job Role:** Temp

November 2016 – (Current) Quest Petone

**Job Role:** Housekeeper

**Education**

Weltec (Wellington Institute of Technology)

* Batchelor of information technology level 7 (Currently Studying)
* Certificate of course completion (Cisco Networking Level 1, 2 & 3)

Tawa College Wellington 2009 – 2012

* NCEA level 3 (Art Design, Art Painting, ICT, ESOL)
* NCEA level 2 (Art Design, English, ESOL, ICT, Math)
* NCEA level 1 (Science, Math, ESOL, ICT)

Name: **Tom Jnr Misikea**  Email: alias\_misikea@yahoo.co.nz Phone: **022 170 8651**

**Personal Statement**

Throughout the years been at Weltec has helped me gained knowledge and prepared me to work together on this project with other members on the team. I am looking forward to working with the members in the group and learning new skills on how to be an effective leader throughout this project. A great opportunity to develop and challenge my knowledge and prepare me for what’s out there.

**Interest**

I enjoy playing sports - Soccer, Rugby, Touch Rugby, Athletics, Cricket, Bicycle Race and Fishing.

My other hobbies are making funny videos on social media, and sharing to my friends and families.

I love playing my favourite instrument the ukulele whenever there is a community functions.

**Skills**

* Project Related Skills
  + HTML, CSS, JAVA Script
  + Experienced on how to use WampServer
* Team Related Skills
  + 3 years in the IT industry – Desktop and system support
  + Effective communication skills
  + Able to organize documentation

**Work Experience**

Warehouse Johnsonville 6 months (part-time) / 2012

**Job Role:** Stock take

Warehouse Petone (transferred from Johnsonville Warehouse) 1 year (part time) / 2012 - 2013

**Job Role:** Stock take

Hutt Valley DHB 2 weeks job / 2014

**Job Role:** Set-up computers on workstations (migration to new system)

Boston Night Club (part-time) / 2015

**Job Role:** Glassy

Note - I do a lot of one-off jobs; labour, IT basics Technician, painting houses (currently)

**Education**

Weltec (Wellington Institute of Technology)

Certificate in Computing Feb - Jun 2012

Certificate in Networking Administrator Feb – Nov 2012

Diploma in Computer Servicing Feb – Nov 2013

Bachelor in Information Technology Full-Time / (still on-going)

**Niue High School**

Student Prefect 2006 - 2008

University Entrance – NCEA Level 1, 2 and 3 2006 - 2008 Seventh Form Certificate - Physical Education, Sport and Recreation

**University of the South Pacific**

**Foundation 2009**

**Client Acceptance**

*All parties agree that this project is conducted on a best efforts basis, and the Project Team or WelTec do not accept liability for the performance of this agreement. The project client agrees that they have read and understood the ‘Client Briefing’ document with regard to responsibilities and obligations.*

*It is agreed and undertaken that all Parties:*

* *will hold in confidence all `confidential information' and,*
* *will not disclose the `confidential information', or permit it to be disclosed to an external party and,*
* *agree that disclosures to other project participants will occur only with the written permission of the other party, and,*
* *will not use, or permit the use of, the `confidential information' for any purpose other than for joint operations without first obtaining written permission to do so from the other party,*
* *will upon request of the other party return all Confidential Information (together with all copies) in its possession or control or in the possession or control of any of its officers, employees, agents or advisors, and*
* *may choose to mark information as ‘confidential’ where necessary.*

*The Client also agrees to allow the Project Team to use project materials for academic purposes, with due regard to confidentiality.*

*The client agrees that, in cases where the project concept, process, specification or any other proposal was devised by WelTec’s staff or students, and the implementation or extension of the results of the project are expected/speculated to generate commercial returns (IP, trademarks, licenses, etc), an agreement covering benefit sharing is required, in all other situations the Client owns the Intellectual Property of the work undertaken. This agreement will be made between WelTec and the industry partner. The Student and supervisor of the project will bring this to the notice of the R and E office.*

By signing below, you agree to all of the terms and conditions described above and that you know and understand the meaning and intent of this agreement.

***Project Client Signature***

Robert Sutcliffe

Name Signature Date

***Project Team Members***

James Owens

Name Signature Date

Mark Gary Omadto

Name Signature Date

Tom Misikea

Name Signature Date

*References:*

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**Appendices**

Appendix 1: Gantt Chart

Appendix 2: Change Request Form