School of Computer Science & Software Engineering

Master of Computer Science

CSCI992 - Project Proposal
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Group B

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Document Control

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Record of Revision

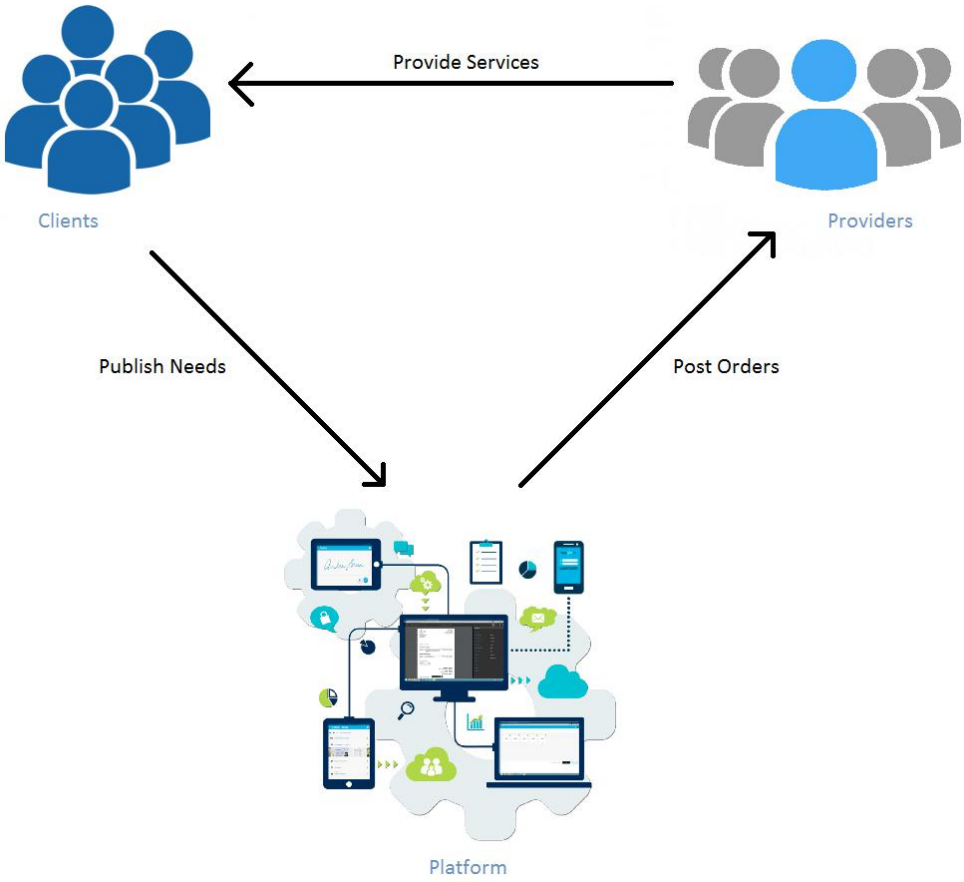
Revision Date	Description	Section Affected	Changes Made by	Version after Revision
25/08/2017	Proposal drafting	Main parts	Qiusheng Chu	1.0
27/08/2017	Adding the format to the draft	Whole article	Wenqiang Xu	1.1
29/08/2017	Adding the introduction	Introduction	Hoang Kim Nguyen	1.2
29/08/2017	Adding comparison	Objectives	Xinyu Zhang	1.3
29/08/2017	Adding High level architecture	End of Documentation	Xinyu Zhang	1.4
30/08/2017	Adding Functionality comparison of current technologies	Objective	Ashwin Dilip Kharat	1.5
04/09/2017	Adding executive Summary, and application example in introduction part	Executive Summary Introduction	Wenqiang Xu	1.6
04/09/2017	Refining the paragraph and diagram	Executive Summary Introduction	Wenqiang Xu	1.7
04/09/2017	Modifying date format of timetable. Refining introduction. Changing project scope into risk assessment. Refining development method	Timetable, Introduction, Risks assessment and Development method	Hoang Kim Nguyen	1.8

Contents

Executive Summary

"Internet + service" is rising! Selling commodities business has been carved up by many online shopping websites such as Amazon and eBay, but selling skills, selling services, selling virtual products business is a new area. Different from connection between "people and goods", we aim to the connection between the "people and services."

Based on the Internet thinking, user-oriented needs and builds more accurate connection between services and clients (S2C) innovative service platform. We focus on consumer market, and integrate online and offline services, design to make quality life in one step. The following diagram illustrates our business mode:



Through this system, consumers can access exclusive services at anytime, anywhere by simply publishing personalized service needs with text, voice, and video, and any business and individuals can provide services when they receive the orders.

In the Internet era, the "zero cost + zero risk" model will be possible. Become of our user, you can make life more convenient; become our service providers, you can make business easier.

Introduction

Modern society involves variety of goods which are available to support human in their daily timeline. However, some certain people are unable to afford service due to financial difficulties. Therefore, we propose a framework which specifically target to these clients named “Service Trading System”. This framework aims to provide an e-commercial market where people using not money but their potential strength (which could be skills, knowledge or other services) to earn other services. By developing this application, we believe that people who do not own much money could still afford for goods and services using their capacities.

Project Description

Background

Every year, there will be a huge number of international students studying and living in Australia. Many of them will have a lot of troubles in adapting themselves into the new lifestyle and learning environment. It would be convenient for them to get some countering services in time. For the time being, there are some platforms which can offer the personalized service both online and offline, however service receivers will be charge hefty fees. Sometimes, some specific training service would be available, but people who need it are restricted with their locations, spare time or other factors. So, we propose to develop an online barter marketplace which will be accessible by people of all income levels in any places, any time when they need specific services.

Objectives

In this professional project, we will develop a “service trading system” where users would sell their legal services for virtual credits or selecting other service providers to help them. The service in our topic is a generic idea which includes all kinds of practical manually assistance and useful help, like teaching for different cuisine styles, housing cleaning service, professional knowledge tutoring etc. Even for people who are not so rich are still able to get some personalized service by giving some services to other people. Meanwhile, users also could trade their virtual credits with some equivalent-value gifts or money, if they don’t need service for the time being.

In our service-trading platform, we will include the following advanced functionalitys from the either business or technique view.

1. Free Products:

   User could post information about the old stuff which they do not need into the personal pages. Instead of throwing stuff away, people who want to claim it could reach out the owners and take it.

2. Personal service recommendation:

   When new users register the accounts, they are required to set their preferences. The preferences setting questions are proposed by an amount of data collection and analysis. So, as time proceeds options and choices recommendation will improve. Additionally, users will receive the potential personal interest recommendations periodically which are generated by the data mining processes and algorithms.

3. Credits accumulation & currency or gift rewards:

   Credits would be awarded to the service providers, if they cannot or do not plan to get any form of service in return from service customers, after giving services. And a certain number of credits would be equivalent with some gifts or money. Alternatively speaking, the more services you provide, the more rewards you will get.

4. Social network sharing:

   In our platform, there will be some common social networking portal which includes Facebook, twitter etc., by which good services would be recommended to their friends as an alternative way for advertising.

5. Service forwarding:

   When service providers are not available sometimes, they could recommend the other providers who would give the similar services to customers. Within the service providers, the relevant bonus would be negotiated after they receive payments or service in return.

6. Customers' interest subscription:

   Platform will offer sellers the information about what customers are interested in the most on week basis, by which providers would adjust themselves to giving more and better personal services. The subscription data will be generated by data mining algorithm designed at back-end.

7. Smart sorting and filtering:

   When searching service, users would have options of sorting results in different sequences. For example, if the customers are international students and their English are not so good, they could find the countering service in the ordering of service providers' nationalities. Then within the same section, more precious orders of sorting and filtering would be employed, like nationality -> likes -> distance -> nearest time etc.

	Free Products	Personal service recommendation	Credits accumulation & currency or gift rewards	Social network sharing	Service Forwarding	Customers' interest subscription	Smart sorting & filtering
Amazon	no	yes	yes	yes	no	yes	Yes
E-bay	no	no	yes	yes	no	yes	Yes
UberEATS	no	yes	no	no	no	no	yes
Deliveroo	no	no	no	no	no	no	yes
Facebook	yes	no	no	yes	no	no	yes
Hellofresh	no	no	yes	no	no	yes	no
Menulog	no	no	no	no	no	no	yes
Gumtree	no	no	Yes	Yes	no	no	yes
Freelancer	no	yes	no	yes	no	no	yes
Fiverr	no	yes	yes	yes	no	no	yes

Application of our platform

For example, a client wants to find a repairman to fix television, when we receive the order from user, we perform analysis of the data and immediately push the order to the exact match of service providers, one of service providers grab the order, and the user will also be able to receive accurate matching service providers' information, and in this way, the platform instantly complete the "people and services," the precise connection.

Another example, a client want to find a humorous and interesting tutor with many years of teaching experience for improving the programming skill such as java who can teach in the morning on Sunday. On our website, the platform immediately can help client to find satisfied candidate. Or a client with general taste want to participate in an important banquet, and need to find a guider who has very aesthetic point of view in fashion to design a personal fashion appearance, our platform can immediately find you a personal fashion designer.

Who is provider

Basically, everyone can be the provider through our platform and sell skills, knowledge, time, experience and wisdom, through grab an order without a shop, finding customers, business negotiation and etc.

Risks Assessment

In the whole project, we will bump into the unexpected exceptions. After discussing, we rank all the risks into following table.

Categories	Risks	Countering measures
Significant risks	Main topic changes	1. Identify the reason why the topic change is inevitable. 2. Discuss with lecturer whether we can solve it.
	Team members transfer or division for some reasons which make the progress	At the beginning, team will be divided into several subgroups. In each subgroup, there are at least two members who will backup with each other. Once some members leave, at least, the other member in this subgroup would take up his job temporarily.
	Infrastructure issues	The server that we use for storing all the resources might be down at some point without the recovery ability. Thus, we need to organize a method for backing up data to several locations.
Trivial risks	Due to sickness, low attendance rate in meeting.	1. Meeting agenda would be e-mailed. 2. Team leader would keep in touch with every member.
	Technique barriers	If there are some technique barriers which are hard to be solved within current knowledge, we will consult some people or tutors who have relevant experience in certain areas.
	Project latency	In the plan phase, we will leave a certain period of time for some inevitable reasons which lead to the project progress latency.
	Submits latency	Specific rules have been proposed to intentional submit delaying.

Development Method

In this professional project, we decide to implement the iterative development model due to its superior advantages.

Iterative development model is commonly used in recent IT's project development. It starts with the idea that we would develop project under repeated cycles and deliver each product's portion at the end of one cycle. By implementing this methodology, the risks of failure project are significantly decreased as well as minimizing the budget for technical adjustment since we could always apply new technology on the next iteration.

Besides, the requirements in IT's projects are always changing. If we use the old version of development model (such as waterfall model), there is a possibility that our project will not meet users' requirements at the delivery time. Iterative development model helps to solve this issues by involving users into the cycle to ensuring our product is heading to the right direction. The detail of each phase will be discussed in the following paragraphs.

In the design phase, basic functionalitys and requirements would be clarified and revision, modification and elaboration would follow.

In the implementation phase, firstly, by dividing the all functions into 3 three categories, elementary level, and main business logic level and advance level. Then in each different phase, main activities are listed as follow.

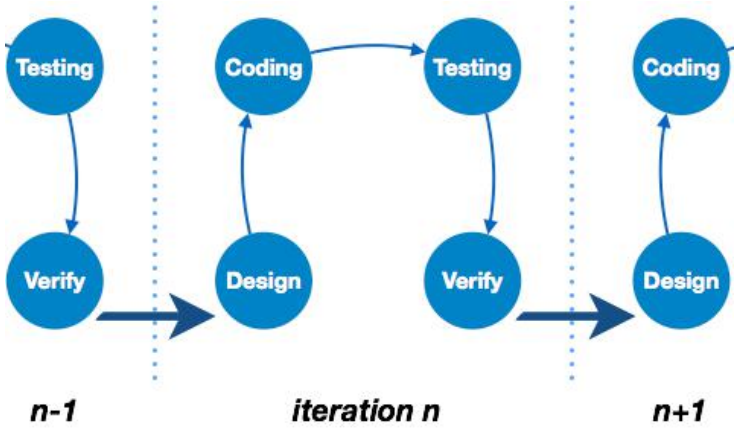
In the elementary level, basic functionalitys would be made, like user log in, basic searching process, user interface designing, and user interaction process and so on.

In the main business logic level, business driven functionalitys would be added gradually and meanwhile, previous basic functions would be tested. The whole works include new functions adding, testing and requirements optimization.

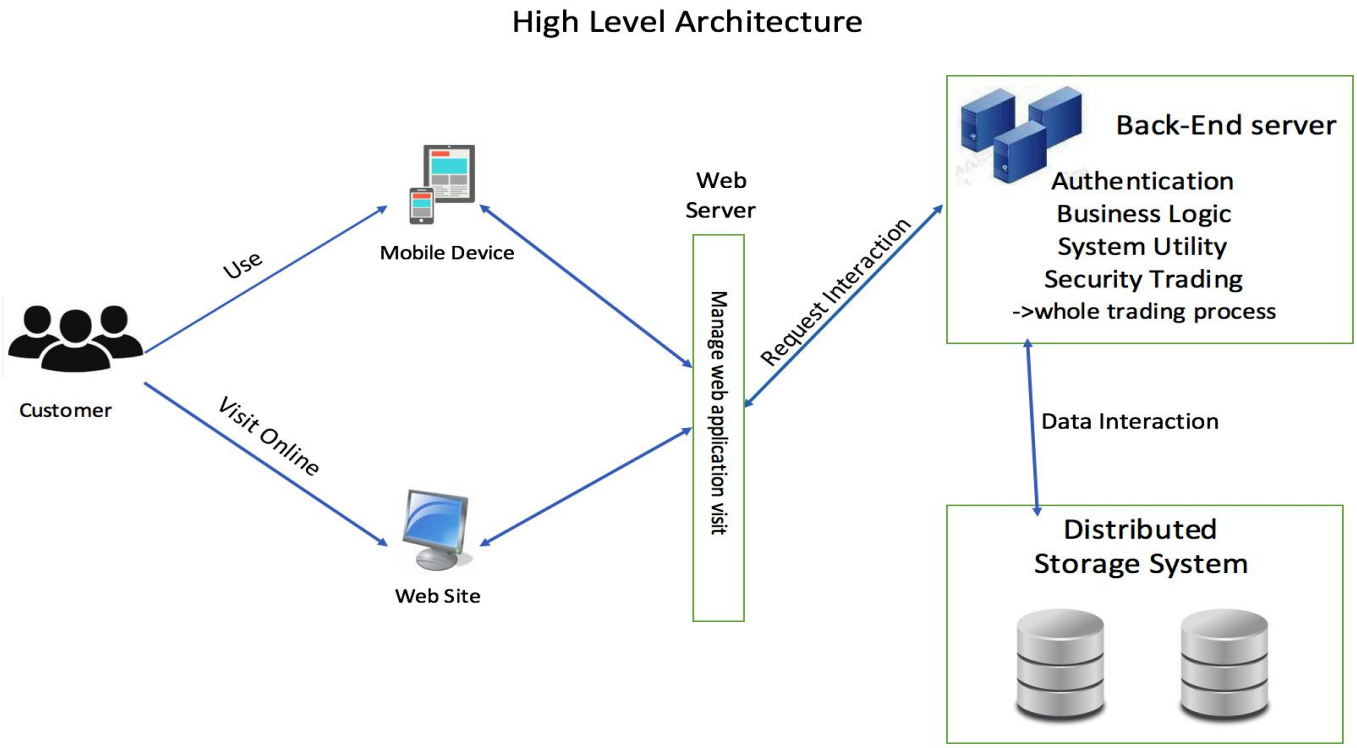
In the advance level, smart and personalized features would be achieved. Simultaneously, all implemented functions would be tested as well.

In every week's group meeting, all submits would be checked and listed in main meeting agenda, which can track on the project progress and whether the works are lived up with expectations.

The following graph indicate the iterative process of the project.



High Level Architecture



Roles and Responsibilities

This section provides the role-matrix of the project team members. Specify roughly what role(s) and responsibilities that each of the team members is responsible for.

Name	Contact detail	Group roles	Responsibility
Qiusheng Chu	qc851@uowmail.edu.au	Group coordinator	Document writing, meeting organizing, meeting records taking etc.
Jianbo Zhao	Jz491@uowmail.edu.au	Team leader	Team drafting initiation, schedule drafting, UI design, requirements drafting etc.
Hoang Kim Nguyen	hkn193@uowmail.edu.au	Team member, developer	Modifying document, develop usable version of product using set of technologies, participate to the development cycle including documenting, coding, testing.
Junxin Ren	Jr239@uowmail.edu.au	Team member, security coordinator	Modifying documents, enhance the security strength of some parts of the entire project.
Ashwin Dilip Kharat	adk829@uowmail.edu.au	Team member, Developer,	Web developer, adding intelligent features. Participating in development cycle.
Sameer Vijay Maharjan	svm636@uowmail.edu.au	Team member, Developer, Product Tester	Documentation, participate to the development cycle including documenting, coding, testing.
Xinyu Zhang	Xz906@uowmail.edu.au	Team member, Developer	Participate in development of project and design of database.
Syed Ali Abbas Naqvi	Saan977@uowmail.edu.au	Team member, Developer	Main focus on developing back end while some assistance in the front end development as well
Wenqiang Xu	wx432@uowmail.edu.au	Team member, Designer	To design and implement the program

Timetable

This section provides the planned schedule for the development of the project.

Time	Progress
22nd Aug - 29th Aug	Proposal completion: 1. Project theme 2. Background identification 3. Team roles distribution 4. Problems solving 5. Weakness and strength analysis
29th Aug -12th Sep	Functional requirements identification: 1. Brainstorm all requirements. 2. Drafting for user cases.
12th Sep – 19th Sep	1. User cases modifications 2. Discussion for non-functional requirements
19th Sep – 10th Oct	UML diagrams designing (at least includes) 1. User cases diagrams 2. Class diagrams 3. Sequence diagrams 4. Status diagrams 5. Activities diagrams
10th Oct - end of this semester	1. Modification and polishing UML design. 2. SRS document writing and completion.
During the summer vacation	Basic functionalitys implementation
This semester	Products completion (detail progress would be discussed based on the project progress)

References

Information Literacy Introduction Program
http://www.library.uow.edu.au/helptraining/workshops/ilip/

Intellectual Property Policy
http://www.uow.edu.au/research/researchmanagement/1998IP.html

SITACS Style Guide for Footnotes, Documentation, Essay and Report Writing
http://www.sitacs.uow.edu.au/info/current/styleguide.pdf