Project Proposal
Academic Year 2021

Candidate Details

Index No: 1805274

Name of candidate:

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Address:

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Supervisor/Advisor Details

	Supervisor 1 (IT Related)	Supervisor 2 (Optional)
Name	Mr. M.P Sarath Wijeshinghe	
Designation	Assistant Director - IT	
Workplace address	Sri Lanka Export Development Board, No 42, Nawam Mawatha, Colombo 02.	
Academic/ professional/ qualifications and memberships	• Degree in Statistics & Computer Sciences, University of Sabaragamuwa • Post Graduate Diploma in Information Technology University of Sabaragamuwa • Certificate in PHP and MySql, Sri Lanka Institute of Information Technology. (SLIIT) • Certificate in Web Development, Sri Lanka Institute of Information Technology. (SLIIT) • Certificate of Creating Quality E-commerce Content conduct by SME Certificate Verification Link - https://learning.intracen.org/verify/?q=s8YMTJ75uD	
Work experience	• Assistant Director - Information Technology Export Development Board • 3 years' experience in managing E-Commerce and Software Development • 04 years' experience in supervising projects at tertiary • 7 years' experience of Software Development • 12 years' experience in implementing IT Projects	
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Phone number/s	0112300705 0718080409	

Note: Any deviation of the final project from the project described in this proposal should be explained by the candidate in the dissertation.

Project Details

Title of Project:

Web-Based Computer Hardware Purchasing and Troubleshooting Assistant management system for U-Star Digital.

If Repeat Student

Number of Attempt(s):

Previous Decision: ○ Same/improved/new

○ New

Earlier Project Title:

Name and address of client:

U-Star Digital,

Kaluthara Road,

Bandaragama.

Motivation for project:

Many types of computers, including desktops, laptops, notebooks, palmtops, and software, as well as peripherals like printers, scanners, and keyboards, are sold and serviced in the computer sales and servicing industry. Before being supplied to end-users, such as households and businesses, these products are frequently purchased from domestic and international producers and distributors.

U-Star Digital is a renowned information and communication technology (ICT) company that has been in existence since 2010. They provide an unrivaled program and experience in ICT

equipment repair, servicing, maintenance, and cleaning. They are depending on its technically advanced next-generation infrastructure to deliver best in class customer-aware and lifestyle-enhancing products and services that anticipate customers' needs.

Customers used to come into the store and convey their needs to the technician who built their computer under the old system. Customers arrived at the shop, handed over the defective item or computer to the hardware professionals, and then waited in their restroom until the job was completed. To take online orders, they currently utilize a phone-based and WhatsApp-based order system. There are no other options than bank transfers, and the customer must send a legal transaction paperwork to confirm the order. Customers are not given accurate delivery information due to a lack of appropriate delivery information.

Customers are on the go, busy, and mobile, and they want frictionless and seamless services. By gaining a solid understanding of the needs of customers they are provided with a convenient product browsing experience, a simple payment system, and a delivery tracking system that allows customers to track their order as it arrives at their home. In addition, after the discussion with shop technicians, it was discovered that the average person has just around 25% of the average understanding of how to purchase items to build a computer. Others require technical support to purchasing products. To use a virtual assistant to aid the rest of the team who are unfamiliar with computer hardware was decided. Besides, the consumer has less time to troubleshoot computer hardware. Our solution was to create an efficient repair management module with an appointment booking module as a computer hardware service provider to prevent consumers from wasting time at their repair location. It is more important to deal with the warranties of the items. Adding a warranty checking feature that allows consumers to check the warranty status of individual parts purchased from the shop is also concerned.

An outstanding solution for U-Star Digital to continue their greatness in the computer sales and maintenance sector in this digital age can be added. By the same token, while pursuing a Bachelor's degree in Information Technology, this effort would substantially assist me in improving my project management, system analysis, design, and development abilities.

Objectives and scope of proposed project:

Objectives:

The study's overall goal is to build and develop an online system for managing computer hardware and services that will assist the company and its employees in becoming more popular with their consumers and marketing their business through the internet.

The study's particular objectives are as follows:

- Include a virtual computer hardware assistant to let customers design a custom computer even if they don't know anything about computer hardware.
- Using an automated question-based module to implement Online Troubleshooting and suggest appropriate items that are currently in stock.
- Including an appointment management module for taking care of appointments from clients who are having issues with their current stuff.
- Providing a feature-rich product browsing method, as well as a simple payment and shipping mechanism, to fulfill the customer's order.
- Implementing a warranty checker to whether the items bought by the customer are still covered under warranty.
- Inventory management, which makes it easy to create items for the store and receive automated alerts when stock levels are low.
- Generate a variety of reports and graphics, including sales and stock data, to assist management in making decisions.

Scope:

- Computer Hardware Assistant Module
    - This module assists customers who are unfamiliar with computer hardware. It takes all the details of individual items and matches them with the next most appropriate piece, completing the assembly of an entire computer. After completing, customers have an option to check out the selected parts and make a payment to complete the assistant process.

- Troubleshooting Assistant Module
    - With the help of this virtual assistant, consumers may troubleshoot their hardware failures without having to visit a computer repair shop, and they can order the right parts that the fault has accurately recognized. Customers can schedule an appointment with one of the computer hardware technicians if the problem is not resolved.

- Appointment Booking Module
    - This module aids in the scheduling of appointments for clients who wish to troubleshoot with in-house computer hardware professionals.

- Shopping Cart Module
    - This module allows users to find the entire store for items and create customer orders using a shopping cart.

- Payment Module
    - This module provides up-to-date information on all payments made by customers, as well as advanced payment filtering options and having bank transfers, and cash on delivery options.
- Inventory Management Module
    - Has the ability to handle the complete inventory. Individual items and corresponding categories, brands, and models can be added, deleted, and updated.

- Warranty Management Module
    - This module aids in the generation of warranty alerts. It shows the status of the warranties of the goods and how much time is left on each item's warranty.

- Delivery Management Module
    - This module contains all of the customer-created delivery records in the system. It displays the order tracking number as well as information about the courier company.

- Invoice Genarationg Module
    - In the system, this module generates a variety of invoices. It's compatible with the payment, computer hardware assistant, and troubleshooting modules.

- Backup and System Log Module
    - This Module enables the backup of system data and extracts the system log such that the system may be audited for any additional issues.

- User Management Module
    - This module helps to manage all of the users of the system. It aids in the selection of the right individual for the right position.

- Report Management Module
    - This module will make it possible to generate, preview, and print a variety of reports in order to continue with the success of the business.

Critical functionalities for project:

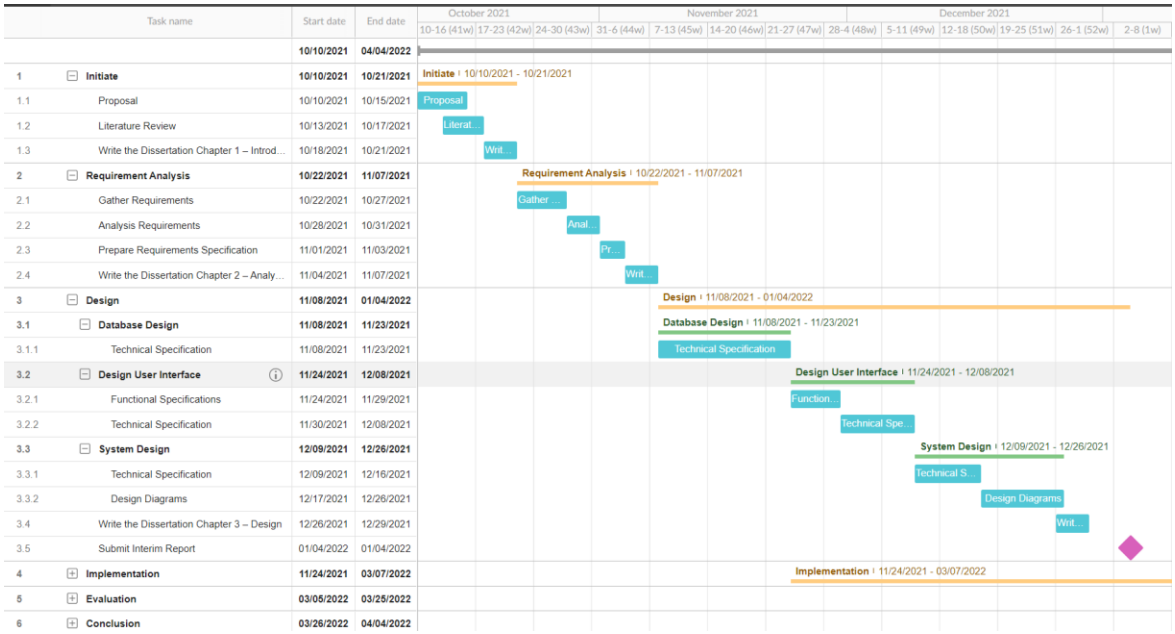
- Computer Hardware assistant with appropriate item specifications to match with other hardware items.
- The questions in the Troubleshooting Assistant Module differ depending on the type of failure.
- The invoice-generating module calculates the total value of the items without any mathematical errors.
- Create reorder amounts in the inventory management module using the first in first out procedure and send alerts to the necessary corporate personnel.
- Appointment booking time does not overlap with earlier dates or the duration of the booking time.
- Authentication and authorization of users, as well as safe access.

Itemized list of deliverables of the system:

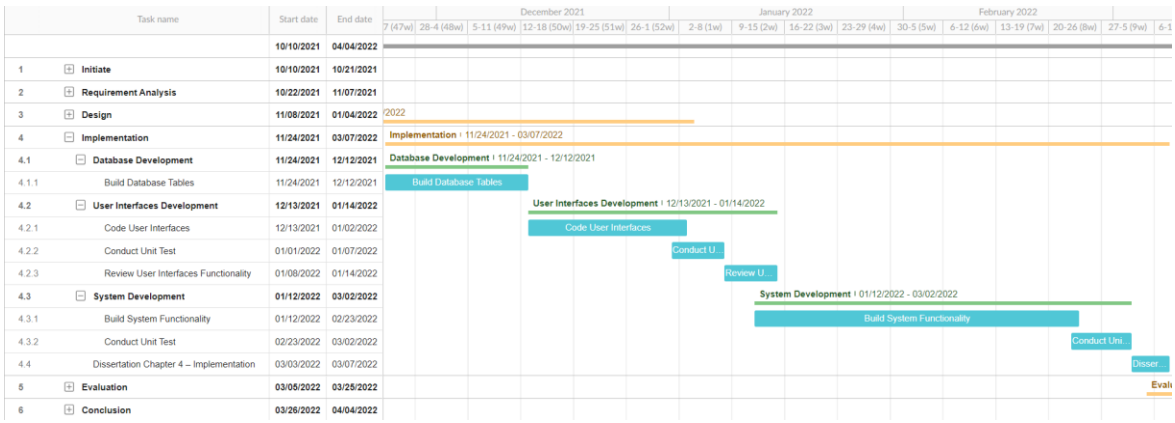
Note: Deliverables are items that you would deliver to the client at the end of the project.

- Project Proposal
- Website
- A fully functional finalized content management system.
- Test plan and Test results
- User manual
- User training
- Source code

A project plan using Gantt chart (include the work involved in system development as well as writing the dissertation):



	Task name	Start date	End date
		10/10/2021	04/04/2022
1	**Initiate**	10/10/2021	10/21/2021
1.1	Proposal	10/10/2021	10/15/2021
1.2	Literature Review	10/13/2021	10/17/2021
1.3	Write the Dissertation Chapter 1 – Introd…	10/18/2021	10/21/2021
2	**Requirement Analysis**	10/22/2021	11/07/2021
2.1	Gather Requirements	10/22/2021	10/27/2021
2.2	Analysis Requirements	10/28/2021	10/31/2021
2.3	Prepare Requirements Specification	11/01/2021	11/03/2021
2.4	Write the Dissertation Chapter 2 – Analy…	11/04/2021	11/07/2021
3	**Design**	11/08/2021	01/04/2022
3.1	**Database Design**	11/08/2021	11/23/2021
3.1.1	Technical Specification	11/08/2021	11/23/2021
3.2	**Design User Interface**	11/24/2021	12/08/2021
3.2.1	Functional Specifications	11/24/2021	11/29/2021
3.2.2	Technical Specification	11/30/2021	12/08/2021
3.3	**System Design**	12/09/2021	12/26/2021
3.3.1	Technical Specification	12/09/2021	12/16/2021
3.3.2	Design Diagrams	12/17/2021	12/26/2021
3.4	Write the Dissertation Chapter 3 – Design	12/26/2021	12/29/2021
3.5	Submit Interim Report	01/04/2022	01/04/2022
4	**Implementation**	11/24/2021	03/07/2022
5	**Evaluation**	03/05/2022	03/25/2022
6	**Conclusion**	03/26/2022	04/04/2022



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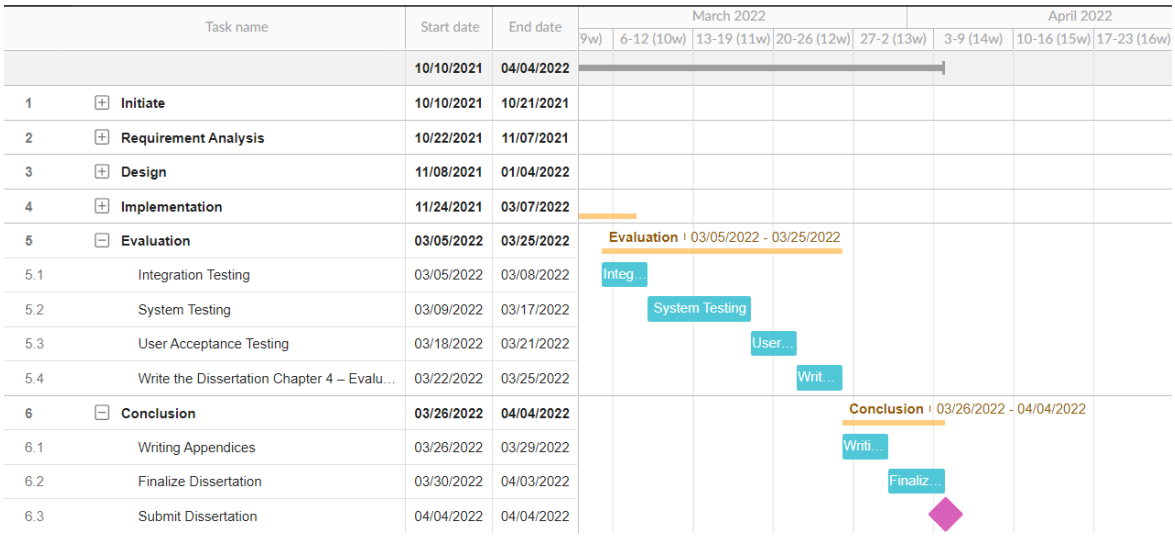
4	**Implementation**	11/24/2021	03/07/2022
4.1	**Database Development**	11/24/2021	12/12/2021
4.1.1	Build Database Tables	11/24/2021	12/12/2021
4.2	**User Interfaces Development**	12/13/2021	01/14/2022
4.2.1	Code User Interfaces	12/13/2021	01/02/2022
4.2.2	Conduct Unit Test	01/01/2022	01/07/2022
4.2.3	Review User Interfaces Functionality	01/08/2022	01/14/2022
4.3	**System Development**	01/12/2022	03/02/2022
4.3.1	Build System Functionality	01/12/2022	02/23/2022
4.3.2	Conduct Unit Test	02/23/2022	03/02/2022
4.4	Dissertation Chapter 4 – Implementation	03/03/2022	03/07/2022
5	**Evaluation**	03/05/2022	03/25/2022
6	**Conclusion**	03/26/2022	04/04/2022



Resource requirements for project (e.g., hardware, software,...):

Hardware requirements

Server

- Processor – Intel Core i7 fourth-generation or higher.
- Ram – 8GB
- Storage – 20GB HDD Drive
- 1Mbps network connection

End-User

- Processor – Intel Core i3 first-generation or higher.
- Ram – 4GB
- 1Mbps network connection

Software requirements

Server

- Windows 8 or higher OS
- Apache server
- PHP 7.4 higher
- MySql

End-User

- Windows 8 or higher OS
- Chromium-based v76 or Firefox v73 or higher web browser

Proposed way of self-evaluating the success of your system:

- Ensure that all customer needs are documented in accordance with the scope.
- Unit testing of each level of the source code and ensuring that there are no syntax issues.
- Use test data to evaluate the software and operational behavior.
- Test a final functional system in client environments to ensure that it meets all of the customer's needs.
- With the customer, perform user acceptance testing.