Temasek Polytechnic
School of Informatics and IT

Diploma in Information Technology (IT)

Project Plan

Project Particulars

Tutor	Mr Mel Goh
Class	P04
Project Title	Delonix Regia Hotel Management System

Project Team's Particulars

Matric Number	Student Name
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Revision History

Date	Version	Description	Author
< 8/5/2016 >	< 1 >	Done up 1.1	Daniel
< 11/5/2016 >	< 2 >	Done up 2, 3, 4	Vivian, Edmund, Daniel, Dom
< 11/5/2016 >	< 3 >	Final check for printing	Daniel, Edmund

Project Plan

1   Introduction

1.1   Objectives and scope of the project

Objective

The main objective of this project is to help Mr. and Mrs. Wang develop a Hotel Management System to improve the traffic of their hotel. Other side objective for us were to get our self-familiarize in using the software that will be used and coding the system for our client. Not only that we can also experience how it feels to develop a software for a client and also understand how does a hotel operates in the backend.

Features Plan

Features Planned For:	Description
Front Office	**Managing customers who check-in or out** **Updating of room status** **Cashier report** **Room statistic report** **Room performance report**
House Keepers	**Room Servicing Request Room** **Servicing History** **Laundry Request**
Finance	**Summary of Sale** **Total monthly report** **Yearly F&B Sale Report**
Store Manager	**Item Stock** **Vendor Report** **Stock Statement** **Issue Register**
Online Booking Engine	**Smartphone Supported** **Easy to use Interface Reviews Columns** **Pre-Arrival Options for Customers**
Restaurant POS	**Table Reservation Management** **Menu Management** **Item Modifiers Report Generator** **Inventory Stock Management**

Deliverables
1. SDLC + 3 Developments Model
2. Terms of References
3. Project Plan
4. Meeting Minutes
5. Software Requirement Specifications
6. Software Design Specifications
7. Program

1.2 Assumptions and constraints

I. When doing the budget plan, I assumed that we will be coding in C#, hence using Visual Studio Professional 2015.
II. Assuming we are all still students of TP (interns, according to project specifications), hence software are free from DreamSpark, and hardware and bring your own device (personal laptops).

1.3 Definitions and acronyms

Acronyms	Definitions
UX	User Experience
UI	User Interface
QC	Quality Control

2 Roles and responsibilities

Objectives/Deliverables	Members
Lead Developer and Product Owner	Daniel Toh
Developer and UX Engineer	Edmund Yeo
Developer and Database Designer	Dominic Ng
Developer, Finance Manager and QC Manager	Vivian Tan

Lead Developer and Product Owner

With regards to the scrum methodology, the product owner is the person with vision, authority and availability. As a product owner, one is responsible for continuously communicating the objectives and priorities to the developing team. At times, it may be a challenge for the product owners to have the right balance of involvement. As Scrum values self-organization among teams, product owners must be not being micro-managing everything.

As lead developer, one is responsible for every aspects of the software developing process, from the first phase of analyzing requirements to last phase of deployments decision in the agile model.

Developer

Everyone in the team will be considered as a developer as everyone in the team will be involved in the software development process which includes research, design, programming, and even testing of the software.

UX Engineer

The UX engineer is responsible for designing the UI of the software in accordance to providing the best experience for users. The UI of a software is significant as it is the way it portrays the idea of the software, which may affect the impression of the users on the software.

Database Designer

The Database designer is in charge of designing the database, which is the foundation of the hotel management system. One will have to ensure that the database is designed to be best fitting and fulfil the needs for Delonix Regia.

QC Manager

As a QC manager, one should be responsible with the quality of the software. They ensure that during the process of performing tests on the hotel management system, it is free from error and ensure the smooth process of deployment.

Finance Manager

As lack of budget may be one restriction, finance manager allocates the budget accordingly in order to ensure that there will not be over-usage of budget required.

3 Estimates and project schedule

3.1 Work breakdown structure

3.3.1 Initial Phase

1.1 Company background research

1.2 Assign roles and responsibilities

1.3 Gather Requirements

    1.3.1 Identify potential users

    1.3.2 Hold meetings with client

    1.3.3 Conclude meeting minutes

1.4 Analyze Necessary Resources

    1.4.1 Allocation of budget

    1.4.2 Completion of budget summary

1.5 Compose Terms of Reference

1.6 Compose Project Plan

1.7 Validation of Project

1. Software Design Phase

2.1 Database Design

    2.1.1 Analyze hotel management needs

    2.1.2 Composing Database Schema

    2.1.3 Mapping Relational/Foreign Keys

2.2 User Interface Design Development

    2.2.1 Analyze functional requirements and objective

    2.2.2 Construct Frontend Design

    2.2.3 Construct Backend Design

2. Construction Phase

3.1 First Iteration

    3.1.1 Iteration Overview Planning

    3.1.2 Develop Frontend Interface Design

    3.1.3 Develop guests registration system

    3.1.4 Develop Updating of Room Status Function

    3.1.5 Develop Cashier Report Page

3.1.6   Develop Room Statistics and Perform Report Page

3.1.7   Develop Tracking of Room Service Requests Function

3.1.8   Develop Servicing History Page

3.1.9   Develop Tracking of Laundry Request Function

3.1.10 Perform system test

3.1.11 End of Iteration meeting (with client and relevant parties)

3.2 Second Iteration

3.2.1   Iteration Overview Planning

3.2.2   Develop Backend interface design

3.2.3   Develop Summary of Sales page

3.2.4   Develop Total monthly report page

3.2.5   Develop Yearly F&B Sales Report page

3.2.6   Develop item stock page

3.2.7   Develop Vendor Report page

3.2.8   Develop Stock Statement page

3.2.9   Develop Tracking of Issues-Registered function

3.2.10 Perform System Test

3.2.11 End of Iteration meeting (with client and relevant parties)

3.3 Third Iteration

3.3.1   Iteration Overview Planning

3.3.2   Develop Web Online Booking Engine

3.3.3   Develop Phone Application Booking Engine

3.3.4   Develop Pre-Arrival Option function on online booking engine

3.3.5   Perform System Test

3.3.6   End of Iteration meeting (with client and relevant parties)

3.4 Fourth Iteration

      3.4.1   Iteration Overview Planning

      3.4.2   Develop Table Reservation Management

      3.4.3   Develop Menu Management

      3.4.4   Develop Items Modifiers Report Generator function

      3.4.5   Develop inventory stock management

      3.4.6   Perform System Test

      3.4.7   End of Iteration meeting (with client and relevant parties)

3. Integration

    4.1 Construct continuous integration plan

    4.2 [First Iteration] Synchronize all branches for coalition

    4.3 [Second Iteration] Synchronize all branches for coalition

    4.4 [Third Iteration] Synchronize all branches for coalition

    4.5 [Fourth Iteration] Synchronize all branches for coalition

4. Testing

    5.1 Construct full test documentation

    5.2 Perform system test

    5.3 Hold a meeting with client for demonstration and presentation of software build

5. Deployment

    6.1 Deploy frontend application to Azure

    6.2 Deploy backend application to Azure

    6.3 Provide staffs guidance on new management system

6. Maintenance and Support

    7.1 Monitor new management system

    7.2 End-Project Consultation

3.2 Project Schedule

Projects
timetable_Hotel Mar

3.3 Budget Summary
3.3.2 Manpower Wages

	Name	Quantity	Wage (S$)
1.	Product Owner/ Lead Developer	1	2,500
2.	Developer/UX Engineer	1	2,200
3.	Developer/Database Designer	1	2,200
4.	Developer/QC Manager/Finance Manager	1	2,200
		Total:	11,700

The above table shows the wages required for manpower per month.

3.3.3 Hardware Costs

	Name	Quantity	Unit Price (S$)	Subtotal (S$)
1.	Personal Laptops	4	-	-
		Total:	-	-

3.3.4 Software Costs

	Name	Quantity	Unit Price (S$)	Subtotal (S$)
1.	Microsoft SQL Server Express	4	-	-
2.	Visual Studio Team Services	4	-	-
3.	Microsoft Office 365	4	-	-
4.	GitHub Private Repositories (GitHub Education)	4	-	-
5.	Visual Studio 2015 Professional	4	-	-
6.	Uptime Monitoring	1	-	-
7.	Cloudflare		-	-
		Total:	-	-

Uptime monitoring is hosted online, it alerts us if the server crashes and when the website goes offline. As hotel system has to be a 24 hours system, having the system crashing will be a significant downfall to it. Hence, using uptime monitoring will help to ensure that our system is always working.

Cloudflare is also hosted online, it protects us from attacks and security vulnerability while optimizing and caching pages for faster loading speed.

4   Risk Management Plan

4.1 Possible Risk

1) **Staff Turnover**

    It is a risk for us if one of our developers had gotten into an accident or leave the company at any time during the project, as our project team is already very small and shortage of manpower would definitely cause impact to our project process.

2) **Unrealistic expectations by client**

    We would be cautious of clients who would like to alter their requirements in the eleventh hour, perhaps adding new feature and such, which may possible be stressful on the time restriction.

3) **Flaws in project scheduling**

    Flaw in project scheduling is a common risk in project management due to insufficient knowledge of the project deliverables and work involved. The most crucial reason for project scheduling flaws is the assumption of things will go well when developing the software and follow the plan. It can be explained as defying the Murphy's Law where it states that "Anything that can go wrong, will go wrong".

4) **Exceeding budget/Cut in Budget/Insufficient budget**

    Our team should bear in mind that in any project that is given by client there is a possibly that we may exceed the budget that is given to us or our client may cut the budget that is given to us anytime when developing the project.

5) **Specification Breakdown**

    Specification breakdown can occur due to miscommunications between the client and developers, as for example the developers or client misunderstand the project specifications and the software is already done.

4.2 Risk Analysis and Assessment

Every risk have different expectation that will happen in any given time in our project or development press. To make it clearer we will be categorizing the risk as shown below.

Likelihood Level	Description
High	Risk is very likely to occur, 70% and above
Medium	Risk may occur, 30% to 70%
Low	Rick is unlikely to occur, below 30%

Impact Level	Description
High	Risk need urgent attention and action to it. It will have a heavy impact on the project overall process.
Medium	Appropriate action should be taken as fast as possible. It will have a medium impact on project overall process
Low	Little impact on project overall but still we should look into the risk to prevent it from getting worse.

Potential Risk	Likelihood Level	Impact Level
Staff Turnover	Medium	High
Unrealistic expectations by client	Medium	Medium
Flaws in project scheduling	Medium	Medium
Exceeding budget/Cut in Budget/Insufficient budget	Medium	Medium
Specification Breakdown	Low	Low

4.3 Risk Response Planning

There are several strategies response that our project team can address the risks:

- **Avoid**, totally eliminate the cause of the risk that have happen
- **Solve**, Identify ways to reduce the impact of the risk that have happen
- **Accept**, accepting that the risk have happen and there is nothing we can do about it.

4.4 Solve Risk

Potential Risk	Likelihood Level	Impact Level	Response	Approach
Staff Turnover	Medium	High	Solve	We can solve this by having two developers rather than just having one so when one of them is sick or leaving the company we would still have someone to look after the software.
Unrealistic expectations by client	Medium	Medium	Solve	We can solve this by having meetups with the clients and update them about the project progress daily.
Flaws in project scheduling	Medium	Medium	Solve	We can solve this by getting rid of assumptions and also estimate the workload so that we can counter the flaws step by step and not jump into assumptions for our scheduling.
Exceeding budget/Cut in Budget/Insufficient budget	Medium	Medium	Solve	We can solve the exceeding budget and insufficient budget by using software that is free. We can solve the cut down in budget by reallocating the budget or cut off the unnecessary cost that we planned for example using free software instead of paid.
Specification Breakdown	Low	Low	Solve	Not understanding requirements and objective of a project risk hindering the developing stage which makes understanding the project an important factor in order to accomplish the objective. As such, trainings for understanding

				requirements may be necessary for the team to ensure the team working on the project are conscious of necessary actions to take.