American International University-Bangladesh (AIUB)

Department of Computer Science

Faculty of Science & Technology (FST)

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Section: F

Group No:1

Renting Management Service

A software Engineering project submitted
By

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21	Islam,Md Tamim Ul	19-40902-2	20%	**1.1** Background to the Problem.
20	Linkon,Ankon Sharkar	19-40895-2	20%	**1.2** Solution to the Problem
24	Ahmed Tanvir	19-41072-2	20%	**1.2** Solution to the Problem **3.** Conclusion
22	Morshed ,Mir Monjur	19-40913-2	20%	**2.1** Process Model
12	Reya,Rubina Islam	19-39811-1	20%	**2.2** Project Role Identification and Responsibilities

The project will be Evaluated for the following Course Outcomes

CO3: Choose appropriate software engineering model in a software development environment	Total Marks
Project Background Analysis and feasibility (needs, goal, benefits, etc.) [5Marks]	
Appropriate Process Model Selection and Argumentation with Evidence [5Marks]	
Completeness, Spelling, Grammar and Organization of the report [5Marks]	
CO4: Explain the roles and their responsibilities in the software project management activities	Total Marks
Content Knowledge (e.g., System Functionalities, Related Product/Services) [5Marks]	
Project Role identification and Responsibilities descriptions [5Marks]	
Submission and Defense the Project [5Marks]	

1. PROJECT PROPOSAL

1.1 Background to the Problem.

In our day to day life we need a lot of things. Some of them are for daily use, those things are mandatory for us. But some of them are not useful for us every day. As a result we buy them for one time use and after that we literally waste them. We put them at the corner of the house or somewhere else as if they are garbage. But sometime those things could be valuable for others. The thing that a person is wasting in his garage or any store room that could be very much useful for another person. Someone else might need that on that time.

So, here now the situation is, there are a lot of people who have some extra products which they don't need on that time also there are some people who might need those product for a limited time

So, our software system will connect both type of people. Our system can fill up the blank space in between two types of people and it can introduce them with a process that will be definitely beneficial for both types of people. Here, our main objective is to create a Software which will help to solve this kind of problem. We have decided to take steps and add it to our problem domain.

Our system is basically going to help two types of people facing problems. Let's look into their situations and find out the root cause of their problem, how can we solve and why are we giving this problem so importance.

1st Situation.

If anyone is thinking about to buying any product then he/she will think about two things. 1st one is, the cost or the price of that product. Usually every single things has a cost in case of buying that item. And another one is for how long he/she is going to use that item. Usually every people think and compare both of this component and then if they feels that the usage is for that product is for a long time then maximum number of people will buy that product. But after comparing both if buyer finds that their usage for that product is for one or two times and the product price is so much high then the they might not be buying that item.

Now as he/she didn't buy that product and he/she needs that product for a short time then what they can do?

2nd Situation

If anyone bought a product at a high price and he/she used that product just for one or two time then the product might not be worthy. After using that they will put that into any store room or garage, as a result that item will became a waste. Buyer can't even use that in compare to the price.

Now as they bought a high price product and used that for a short time and probably they might use that in future, but at this moment the product is not useful for them it just occupying space then what they can do with that item?

From the situation we get to know that this is a problem to consider. Our system will not only answer above two persons questions it will also give them a solution that would be very very helpful and beneficiary for both of them.

So let's look into our solution.

1.2 Solution to the Problem

Above we have discussed about two types of common problem that we usually face in our day to day life. And we said that our system will help them to not only solve their problem but also give then a lot of benefits. So let's have a look into it.

The person who have extra things like car, Bike, Electronic devices, household machines etc. can rent their products for short or long time. They can add the description of that product and can add the daily or monthly rental price for that. From that rental advertisement in our system anyone can rent them according to the rules. And in the middle of rental process our agent will check the product before and after. This is how our system is going to deal with this problem.

Now if we think why this system will be appropriate then we will find that, by using our system some items will be useful, some people won't need to buy any product for a short time with a huge price and some people can make their useless thing to a useful thing or a source of income.

Our business objective is to connect the people and this system will definitely connect the people.

There are a lot of people who have some products which they can't use for some reason. There are also some people who have a need for some product for a limited time. But it will be beneficial for them if they can rent rather than buy. By our software they are able to communicate with each other as our program gives them their required info. It will be a beneficial solution.

Goals:

1. 1. Create a responsive software where users can have a single interface to search for their required products.
2. Provide an easy interface for the owners & borrowers who want to rent & buy their product.

We don't always get any necessary thing that we need for a limited time. Anyone can advertise for rest through this software. And you can rent the product of your choice by looking at the price. Besides, arrangements have been made so that you can pay the price online. There will be biodata for both the advertiser for the rent and the person taking the rent.

2. SOFTWARE DEVELOPMENT LIFE CYCLE

2.1 Process Model

In this software users can have a single interface to search for their required products. It also provides an easy interface for the owners & borrowers who want to rent & buy their product. There are three types of process.

1. Linear process model,
2. Iterative process model,
3. Parallel process model.

In our project, there are some situations where parallel works are done simultaneously. That is why we needed a parallel process model. So, we selected "**SCRUM Process**" for our project "**Renting Management Service**". There are 3 reasons of choosing SCRUM process for our project:

1. Adaptive
2. Quick
3. Self-Organizing

The term 'Scrum' originally derives from a strategy in the game of rugby where it denotes "getting an out of play ball back into the game" with teamwork (Schwaber and Beedle 2002). There are 3 phases of SCRUM process:

1) Pre-Game
   a) Planning
   b) Architecture
2) Development (Game Phase)
3) Post-Game

This development phase is treated as a "black box" where the unpredictable is expected. The system is developed in Sprints. Post-Game phase is entered when an agreement has been made such as the requirements are completed. In this case, no more items and issues can be found, nor can any new ones be invented. The system is now ready for the release and the preparation for this is done during the postgame phase, including the tasks such as the integration, system testing and documentation. These phases are very much important for our project that's why we have chosen this process.

As we talked about before, there are 4 types of process. Among them we chose parallel processing. Because we will be needing to do parallel tasks in our software. In our environment, there are 4 types of actors. They are RENTER, BORROWER, ADMIN & STAFF. Below them there are more types. But they are the main actors. In the system the RENTER and BORROWER are mentioned as users. Now if a user wants to borrow a product admin will know about it. After that it will check automatically that the product is available or not during the period. A payment method will be selected if available. Stuff will deliver the product with the condition of the product. In this scenario, parallel tasks took place. That's why we need

parallel processing. The advantages of using parallel processes are that multiple parallel tasks are done through this. There are some other advantages of the SCRUM process.

2.2 Project Role Identification and Responsibilities

In our project, we have some roles for its identification and responsibilities. It will help our project to success and complete within a time. They are:

1.**Product Owner:** This is the one person who is responsible for the product. All product requirements must come through the owner. It's his responsibility. He also determines the priorities of these requirements are clearly defined and makes the final decisions of the tasks related to product backlog.

2.**Scrum Master:** Scrum master makes sure the scrum team adheres to scrum practices. For the product owner, this help includes suggesting techniques to manage the product backlog, to attain clear requirements. For the development team members, this help includes coaching the team to self-organize. Scrum master interacts with the project team as well as with the customer and the management during the project.

3. **Scrum Development Team:** They are the developers on a scrum team. They should be self-organizing. Scrum development teams are small, ideally between three and nine people. They are self-contained, consisting of everyone and everything needed to complete the product. Also, each member generally takes on mixed tasks. For example, doing both coding and testing. Accountability rests with the entire team.

4. **Customer: They** participate in the tasks related to product backlog items for the system being developed or enhanced.

5. **Management:** It is in charge of final decision making, along with the agreements, standards and conventions to be followed in the project. Management also participates in the setting of goals and requirements.

3. Conclusion

At the beginning we have identified a recent problem which we face in our day to day life and we have also identified how to solve that specific problem with the help of our system. We saw how our project can solve this problem by connecting people. After that we came to know about our software's process model in details. And finally we have identified the roles and the responsibilities of our system. Hopefully all of this will give a clear overview and detail knowledge about the "Renting Management System".