American International University-Bangladesh (AIUB)
Department of Computer Science
Faculty of Science & Technology (FST)

OneTap

A Software Engineering Project Submitted
By

Semester: Summer_21_22		Section:G	Group Number:04	
SN	Student Name	Student ID	Contribution (CO1+CO2)	• Individual Marks
05	Tushar, Mahmud Hossain	19-39783-1	20%	
33	Jalal, Md. Shah	20-43479-1	20%	
34	Karmakar, Arpon	20-43493-1	20%	
35	Roy, Mridul Kumar	20-43517-1	20%	
37	Mohiuddin, Mirza	20-43598-1	20%	

The project will be Evaluated for the following Course Outcomes

CO1: *Analyze* the impact of software engineering models over various context of software development to assess societal, health, safety, legal and cultural issues.	Total Marks	
Project Background Analysis and feasibility (needs, goal, benefits, etc.)	[5 Marks]	
Analysis the impact of societal, health, safety, legal and cultural issues	[5Marks]	
Review of existing Studies and Relevant Example	[5Marks]	
CO2: *Explain* appropriate software engineering model, project management roles and their skills in the context of professional engineering practice and solutions to complex engineering problems in a software development environment.	Total Marks	
Appropriate Process Model Selection and Argumentation with Evidence	[5Marks]	
Evidence of Argumentation regarding process model selection	[5Marks]	
Submission, Defense, Completeness, Spelling, grammar and Organization of the Project report	[5Marks]	

Description of Student's Contribution in the Project work

Student Name: Tushar, Mahmud Hossain
Student ID: 19-39783-1
Contribution in Percentage (%): 20%
Contribution in the Project:
- Choosing process model
- Description of the model

Mahmud

24/06/22.
_____
Signature of the Student

Student Name: Jalal, Md. Shah
Student ID: 20-43479-1
Contribution in Percentage (%): 20%
Contribution in the Project:
- Problem Background
- Discretion of the problem

ShahJaLal

24/06/22.
_____
Signature of the Student

Student Name: Karmakar, Arpon
Student ID: 20-43493-1
Contribution in Percentage (%): 20%
Contribution in the Project:
- Solution of the problem
- Basic functionality of the solution

Arpon Karmakar

24/06/22.
_____
Signature of the Student
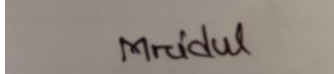

Student Name: Roy, Mridul Kumar
Student ID: 20-43517-1

Contribution in Percentage (%): 20%
Contribution in the Project:
• Project role
• Assigning responsibilities

_____
Signature of the Student

Mridul

24/06/22.

Student Name: Mohiuddin, Mirza
Student ID: 20-43598-1
Contribution in Percentage (%): 20%
Contribution in the Project:
• Solution of the problem
• Basic functionality of the solution

MIRZA

24/06/22.
_____

Signature of the Student

• **PROJECT PROPOSAL**

• **Background to the Problem**

People need to travel to places within a short distance for their daily activities. Now a days for a vehicle they use a ridesharing program on their smartphone and calls a vehicle to ride to reach their destination. After waiting for some time, the vehicle comes and picks them up. After accepting the ride, the driver might take the longer and traffic packed route to reach the destination and lose a significant amount of time then demand for a much higher fare. In addition to this, the passenger might sometime note that the driver does not meet the requirements necessary to operate a vehicle safely in the city. Many of the people face this issue on a regular basis. Therefore, we need a system that is capable of comparing all of the available online ridesharing applications, such as Uber, Pathhao, Shohoz, and so on.

The ride sharing applications not being comparable at this point is the main cause of this issue. So, people lose a lot of money by not comparing with other applications and also lose a lot of time waiting in traffic. Then the possibility of finding an unprofessional driver is also immense. This is a major problem that needs a quick and easy solution.

- **Solution to the Problem**

The main purpose of this project is to choose the best possible route and deal for the user to take and also the users can find all the solutions of their problems in one place. To solve this problem, we are providing a software named OneTap System which is easy to use and which can overcome all the difficulties the user faces before and while travelling.

OneTap system can provide facilities to compare the cost with different organization and choose the best option. On the other hands clients can review the ride which he taken. By the positive review of a rider, the system can bring good impression to clients. As a result, the professional rider will get more rides and improve the organization's service. They can also enjoy the transportation facilities from our software which will make their journey easy and enjoyable. They can also choose a budget friendly ride share. So, our system will be the best solution for these problems and also feasible to meet the business objectives.

The main goal of this project is to save time and money. So, our target is those who use ride sharing apps whether be them rich or poor, young or old, local or international people. Young people are full of spirits and they love to do adventure. So, when it comes to the core audience targeting, young travelers stand at the first. International students need to travel a lot from one country to another. So, our presented software could be a great help to them. Again, high-end residents travel a lot so they can be an important user for our system in order to enjoy their vacations.

In order to make ride sharing process easy, there are some applications like Uber, Pathou, Shohoz etc. But they do not provide the all facilities like, comparing fares, Driver rewarding system etc. Our OneTap System is the first ride sharing system in Bangladesh which can provide all these facilities at once. By using this software clints can pick up a rider according to their budget and choice. They can also customize their own path and enjoy the transportation facilities which other software do not provide. Again, they can compare and see driver ranks as well as book them which helps the user to make the best decision. So, it is evident that our OneTap System is certainly more advanced and improvised version of those existing software.

- **SOFTWARE DEVELOPMENT LIFE CYCLE**

- **Process Model**

Our project is mostly about helping the people who use ride-sharing apps to get around every day. The people on our team worked hard to add new features to this software. One of them is to put all ride-sharing apps on the same platform so we can compare them and pick the best ride. Our country has never had anything like this before. If we try to build this software with a plan-driven model, we wouldn't be able to change the features to meet customer needs. We can't even update the software, which is not good for customers. Also, the most valuable thing we do is compare different rides and show which one is the best. So, we chose the Agile Method to develop the software to make it easy to use and keep it up to date.

Modern software development frequently uses agile development approaches. In order to succeed in a chaotic corporate climate, one needs the ability to innovate and respond to change. There are numerous agile software development techniques. However, we have chosen to employ the Scrum process paradigm among them. The successful integration of all stakeholders participating in a project is accomplished via a methodology like Scrum. Scrum management and participation are very straightforward and simple to handle at all phases. The scrum framework is very heuristic, relying on ongoing learning and adapting to changing circumstances. That accepts that the team will gain expertise as the project progresses and that they will not know everything at the beginning. Scrum emphasizes primarily on how to handle tasks within a team-based development. Scrum is also designed with re-prioritization built into the process and brief release cycles to assist teams automatically adapt to changing circumstances and user requirements, which is crucial for our project. This will allow your team to continuously learn and develop. Scrum also encourages teams to self-organize while tackling a challenge and learn from experiences.

We chose an agile method for our project because it depends mostly on what the user wants and how the user will get our new features. It is not possible to change the requirements. If you stick to a strict method, you won't be able to do what's best for you. Agile projects are done over and over in a cycle, while waterfall projects are done one after the other. Agile makes it possible for your clients to release their base software before the whole suite. But they won't let you use a waterfall or V-model. The development process is iterative. Unlike waterfalls and V models, the project runs in short iterative weeks, and the phases are much bigger than iterative. In the agile model, the test plan is looked at after each sprint. In the waterfall model, however, the test plan is looked at after the whole project has been built. So, if a mistake happens in the waterfall model after the whole project is done, it will cost us a lot of money. In an agile model, on the other hand, customers often get to look at the product and decide or make changes to the project. Any mistake on a project can be fixed. Agile models can be broken down into their parts, but other models can't. Agile processes require close communication between testers, developers, and requirements planners, while waterfall and V-models have a time gap between testing and coding because developers are not involved in the requirements and planning process. Also, testers and developers work together in agile, while in waterfall and V-models, testers and developers work separately.

- **Project Role Identification and Responsibilities**

As we've got determined to apply the Scrum Rapid Method to expand our software, we must observe a few roles and duties are produced from via way of means of agile teams. Basically, scrum system consists of 3 phases: Pre-game, Development and Post-game. From the angle our project, we've got four roles named Admin as Scrum Master, Management Team as Scrum Team, Volunteer & Client. Their duties in every position are defined in below.

Scrum Master: Scrum Master is the undertaking head who leads the undertaking in addition to controls all scrum crew members. They are liable for making sure that the undertaking is carried via in line with the practices, values, and guidelines of Scrum and that it progresses as planned. Also, they have interaction with the undertaking crew in addition to with the purchaser and the control in the course of the undertaking. Usually, the Scrum Master & the Product Owner are the special persons. But at a few uncommon cases, Scrum Master is putting course in a manner the Product Owner might. In our undertaking, admin performs each function of scrum master & product owner. They are formally liable for the undertaking, managing, controlling, defining and prioritizing necessities to fulfil our purchaser needs. Therefore, all of the very last choices might be taken through the control.

Scrum Team: Scrum Team is the mission group that has the authority to decide on the important steps and get ready for them so that every Sprint's goals can be met. The scrum group is in charge of estimating how long a task will take, making and reviewing the Sprint Backlog, and suggesting problems that need to be fixed in the project. Self-organization is something that the scrum group has to do. The scrum group is in charge of developing and running our mission. Each member doesn't have to be an engineer, but they can be a part of the group if their skills are needed to keep the mission going at the right pace. Developers may also have a special skill that helps the team, and they are the ones who do the coding. The Management Team gathers and organizes work to help hungry clients. But everyone in the group shares responsibility. A stand-up meeting called the Daily Scrum is held every day to talk about project progress with friends and the Scrum Master and get feedback from him. Also, scrum group is in charge of our mission's volunteers.

Product Owner: According to the Scrum approach, the lead user of a system, someone from product management, or marketing is often the project's Scrum Product Owner. They have a thorough understanding of customers, the industry, rivals, and trends.

Customer: The client is the project's glue, holding it together by communicating with external stakeholders, providing user stories, and doing acceptance testing in addition to their other responsibilities.

Management: According to the Scrum Guide, management should provide the Product Owner with knowledge on high-value features of products and systems in order to assist them.

Rubric for Project Assessment (CO1)

Marking Criteria	Marks Distribution (Maximum 3X5=15)				Acquired Marks
	Inadequate (1-2)	**Satisfactory (3)**	**Good (4)**	**Excellent (5)**	
Background Analysis	No background information regarding the project is given; project goals and benefits are missing.	Insufficient background information is given; project goals and benefits are poorly stated	Sufficient background information is given; the purpose and goals of the project are explained.	Thorough and relevant background information is given; project goals are clear and easy to identify.	
Analysis the impact of societal, health, safety, legal and cultural issues	Student vaguely discuss the impact of societal, health, safety, legal and cultural issues in their project	Student provided with partial relevance to the impact of societal, health, safety, legal and cultural issues in their project	Student fairly provided the analysis to the impact of societal, health, safety, legal and cultural issues in their project	Student comprehensively provided the analysis to the impact of societal, health, safety, legal and cultural issues in their project	
Existing Studies and Relevant Example	Ambiguous representative example.	Partially identify / indicate towards real-life example.	Real-life example is fairly connected towards the definition.	Comprehensively defend with real life example.	
				Acquired Marks:	
				CO Pass / Fail:	

Rubric for Project Assessment (CO2)

Criteria	Marks distribution (Max 3X5= 15)				Acquired Marks
	Inadequate (1-2)	Satisfactory (3)	Good (4)	Excellent (5)	
Argumentation of Model selection with Evidence of Argumentation	Does not articulate a position or argument of choosing appropriate model. Does not present any evidence to support the arguments for the choice of the model	Articulates a position or argument for choosing models that is unfocused or ambiguous. Presents incomplete/vague evidence to support argument for model choice	Articulates a position or argument of choosing models that is limited in scope. Does not present enough evidence to support the argument for the choice of the model	Clearly articulates a position or argument for the choosing software engineering models. Presents sufficient amount of evidence to support argument for the model selection	
Role identification and Responsibility Allocation	The project has poor project management plans for identifying roles and assigning the responsibilities	Identify few roles in the project management where some of the roles are left alone with any project responsibilities	Identify most of the roles in the project management and assign their responsibilities	Well planned project with proper role identification and responsibility allocation in the project management activities	
Submission, Completeness, Spelling, grammar and Organization of the Project report	Project report is not complete and Several errors in spelling and grammar. Present a Confusing organization of concepts, supporting arguments, and real-life example. Sentences rambling, and details are repeated.	Some errors in spelling and grammar. Some problems of organizing the answer in a logical order of defining, elaborating, and providing real-life examples.	Few errors in spelling and grammar. Presents most of the details in a logical flow of organization in definition, details, and example.	Project report is complete and No errors in spelling and grammar. Consistently presents a logical and effective organization of definition, details, and real-life example of the topic.	
				Acquired marks:	

	CO Pass / Fail:	