American International University-Bangladesh (AIUB)

Faculty of Science and Technology (FST)
Department of Computer Science (CS)

SDPM Group Project, Spring 2023

Project Title: Info Strainer
Section: A

Submitted by

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1.0 Project Title:

Info Strainer

2.0 Introduction:

'Info Strainer' is an online learning platform. Utilizing this system information seeker will be able to obtain their required information more precisely and accurately. Three types of users will be available on this platform. Which is General user (information seeker), Expert (the person who will provide information or answer), and Admin/Auditor.

3.0 Objectives:

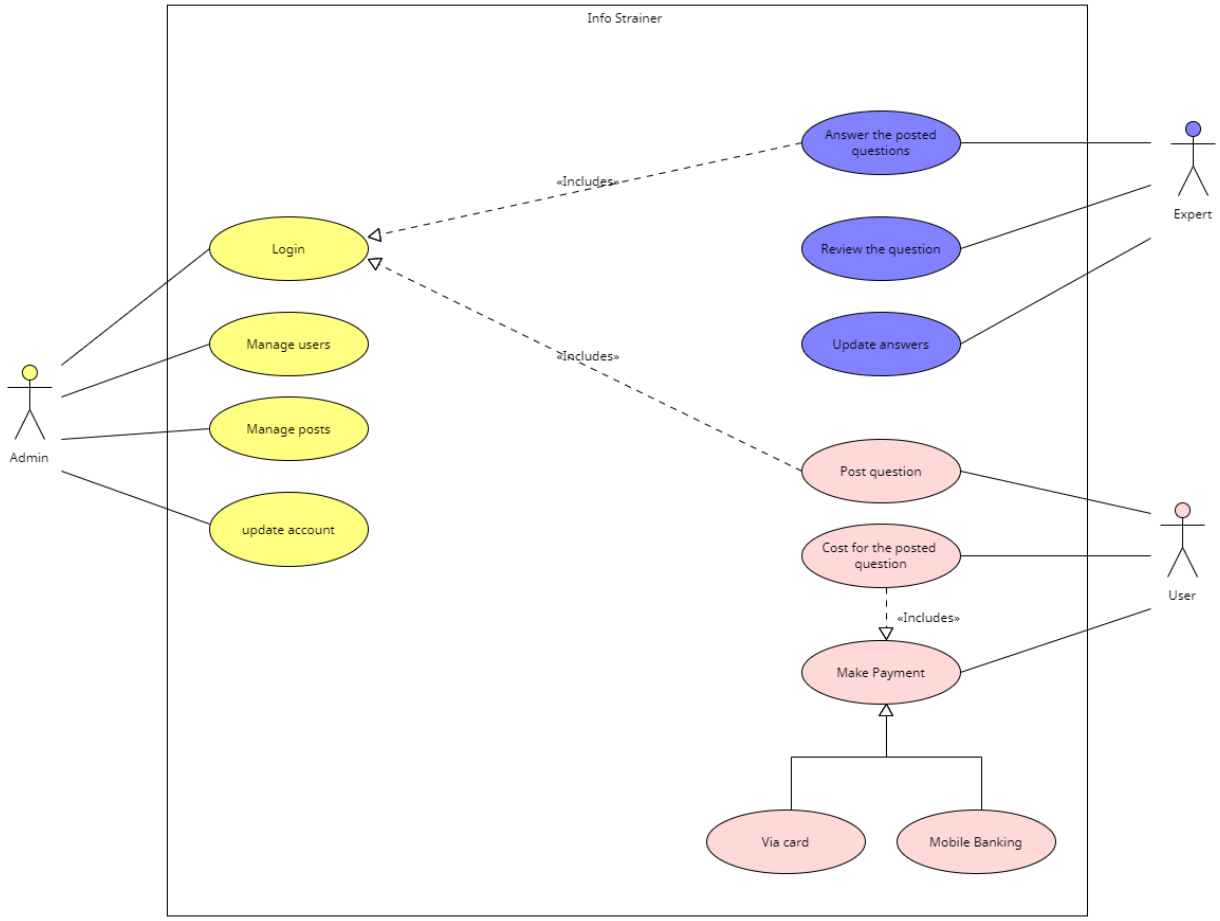
The platform will have an option to go through a verification or registration process for users. A registered general user can post queries regarding the problem and experts would be able to answer those questions in the comment section. General users would have to use "Tags" to simplify the category of their query. Experts who are from the related field of the tagged query will be notified and be able to give proper solutions and if the user is not satisfied with the answers provided in the comments or he/she can interact with the experts personally to know more of it. Also, experts will be paid online on how many queries they have answered and detailed answers or research would require to be paid a fair amount. General users can rate the Expert's solution and Experts can receive a "Popularity Star" for providing an accurate answer that the user wanted. Besides posting queries, general users can search their question in the search box and related solutions or information or possible hyperlinks will be shown.

4.0 Justification:

Information seekers or students may benefit most from the "Info Strainer" initiative. Also, a range of academic and non-academic resources will be available. Experts or Educators can provide with a platform to publish and distribute their own academic content and show their skills. Job Seekers who are freelancers and tutors to find online work opportunities, such as online tutoring, writing and editing, and research projects. Investors may benefit from investing in the company's stock if its financial performance continues to improve.

Although there are alternative online learning platforms, "Info Strainer" is much more safe, reliable, and user-friendly. Also, there are several kinds of payments options is included. So, user no need to take headache about payment. All the system is well synchronized. So, the whole data is stored safely in the database.

5.0 Systems Overview: (Includes Use case diagram)



6.0 Stakeholders analysis: In this online learning platform, there are total three types of users who will use this system:

1. General user (information seeker):

- User can sign up and login to the website.
- User can manage their account (Change Name, Change password, Update Location & Mobile Number).
- User can browse home page.
- User can ask questions.
- User can provide rating to the Experts.
- User can make payment.

2. Expert (the person who will provide information or answer):

- Have to go through a process of providing his/her field experience, work, name, contact, and other necessary information in a different submission forum.
- Verification team will arrange an online screening, subject, and guidelines test for the users who have registered for becoming an “Expert”.

3. Admin/Auditor:

- Can manage the system.
- Can edit other users’ profile.
- Verify user profile.

7.0 Feasibility study:

7.1 Technical Feasibility:

The feasibility study refers to the idea of whether a software if worth starting or not. Whether it will benefit the organization in the long run or not. The necessary technical equipment’s that will be needed to run the system without any problem have to be estimated. There will be enough software developers to develop the system. Server with high power processors and storage will be capable of providing constant service. Besides, there will be monitoring tools if any error occurs it will immediately inform the maintainers. An excellent connection of internet service that will give 99.99% uptime and provide stable and quality service.

Hardware Requirements (Minimum)-

- Memory: 4 GB
- GPU: INTEL UHD Graphics 600/ AMD Radeon Integrated 550X
- CPU: Intel Core i3 TM, 2.5GHZ

Software Requirement-

- OS: Windows 7/8/10/11
- Database software: XAMPP, Oracle, MySQL
- Language: PHP/HTML/CSS/JavaScript/SQL

In the conclusion, the project is feasible in terms of technical overview.

7.2 Financial Feasibility:

The aim of the project is to serve the people seeking information so that, the users can find any solution of their concerned work fast and most importantly accurate. So that, there are a huge number of people who are willing to pay that extra service charge that will remove their hassles to manually solve or find any solution for a problem. Besides, it will also save their time. That increases the chance of earning consistent profit through this business environment.

Development cost	BDT 1000000
Maintenance cost	BDT 82000
Project Manager	BDT 400000
Expert's fee	BDT 30000
Project Co-Ordinator	BDT 100000
Consultant	BDT 100000
Office space	BDT 50000
Utilities (water, internet, electricity, Miscellaneous)	BDT 50000
10% overhead cost for safety	BDT 200000
Total Cost	BDT 2012000

Proposed budget to the client for the project is BDT 2200000

Total cost of the project with profit included: BDT 1824000

As the project costs are well within the reach to achieve a significant amount of profit from this project so it can be stated that the project is financially feasible.

7.3 Feasibility Study: Comparing with the bank's interest rate

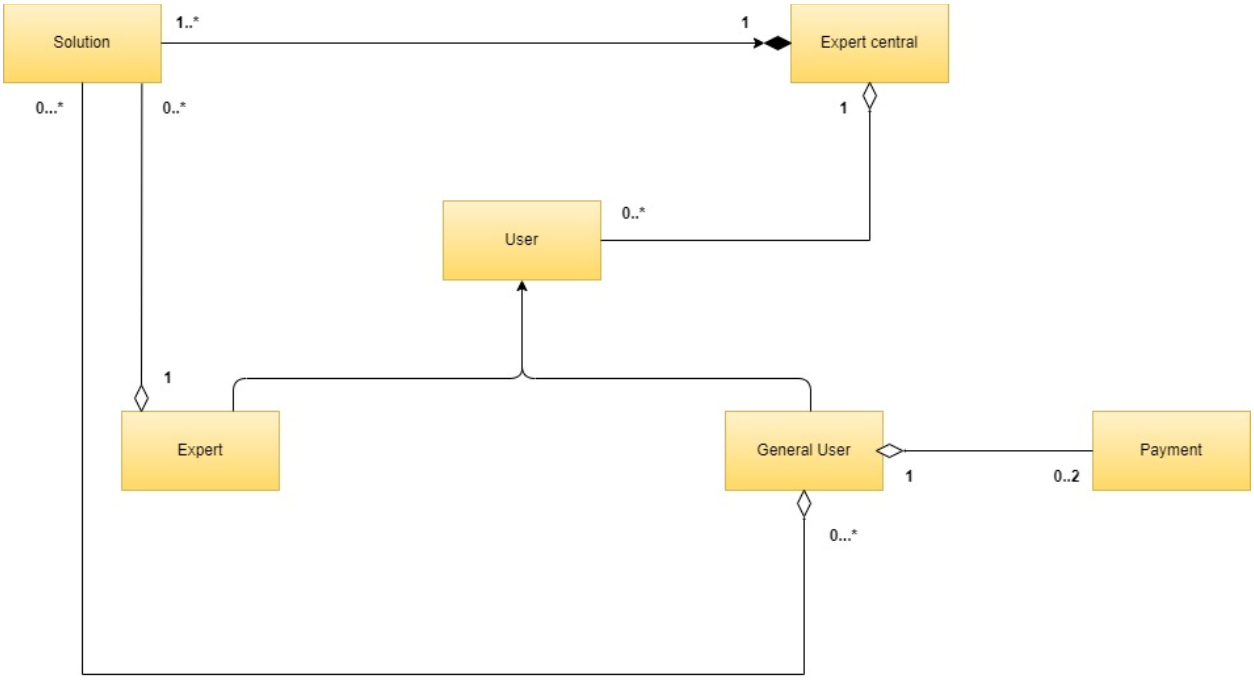
Since the local banks offer 4.75% interest rate. So, the profit from BDT 2012000 investment will be 2012000*4.5% = BDT 90540 (yearly profit)

Then the profit for 16 months (project duration) would be = (90540/12) *16 = BDT 120720

Finally, the estimated profit from the project is 35% of the entire budget of the project. Which is = 2012000*35% = BDT 704200

Finally, we come to a decision of implementing the project, the profit margin is significantly higher than earning profit form bank interest. The above data show illustrates that the profit form building the project is much higher than the profit gained form bank interest, So, it can be stated that the project is financially feasible with the proposed budget of BDT 2012000.

8.0 Systems component:



9.0 Process Model to be followed:

Web app development projects frequently employ the agile technique. Iterative software development is the foundation of the agile process paradigm. Agile project management techniques divide work into smaller iterations or pieces without directly including long-term planning.

The project's requirements and scope are established at the start of the development phase. Planning for the quantity, length, and scope of each iteration are spelled out in detail in advance. In the Agile process paradigm, each iteration is viewed as a brief time "frame" that generally lasts one to four weeks.

The division of the entire project into smaller parts helps to minimize the project risk and to reduce the overall project delivery time requirements. Each iteration involves a team working through a full software development life cycle including planning, requirements analysis, design, coding, and testing before a working product is demonstrated to the client.

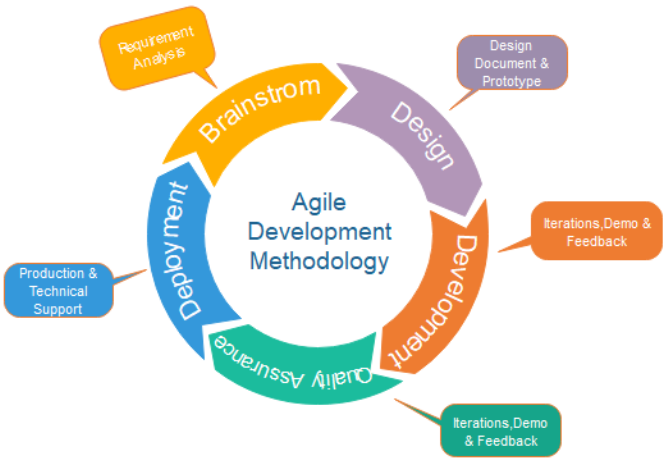


Fig. Agile Model

Advantages of Agile Method:

1. Frequent Delivery
2. Face-to-Face Communication with clients.
3. Efficient design and fulfils the business requirement.
4. Anytime changes are acceptable.
5. It reduces total development time.

Moreover, after a group discussion with all members present it was concluded that due to getting early valuable feedback from the patients and being able to handle large complex projects easily during the development process, the Agile Process Model would be best suited for "Emergency Ambulance Booking System".

10.0 Efforts estimation:

Budget is an important part for any project and all investors need to know about the cost of project. To complete a project, it needs a specific time period to finish and a budget.
For this project, we are going to use COCOMO (COnstructive COst MOdel) to estimate the cost of this project. Suppose, our project is Organic type. The project is estimated to be 20000 SLOC. Now we have to calculate effort, development time and required number of people.

Software Project Type	Coefficient <Effort Factor>	P	T
Organic	2.4	1.05	0.38
Semi-detached	3.0	1.12	0.35
Embedded	3.6	1.20	0.32

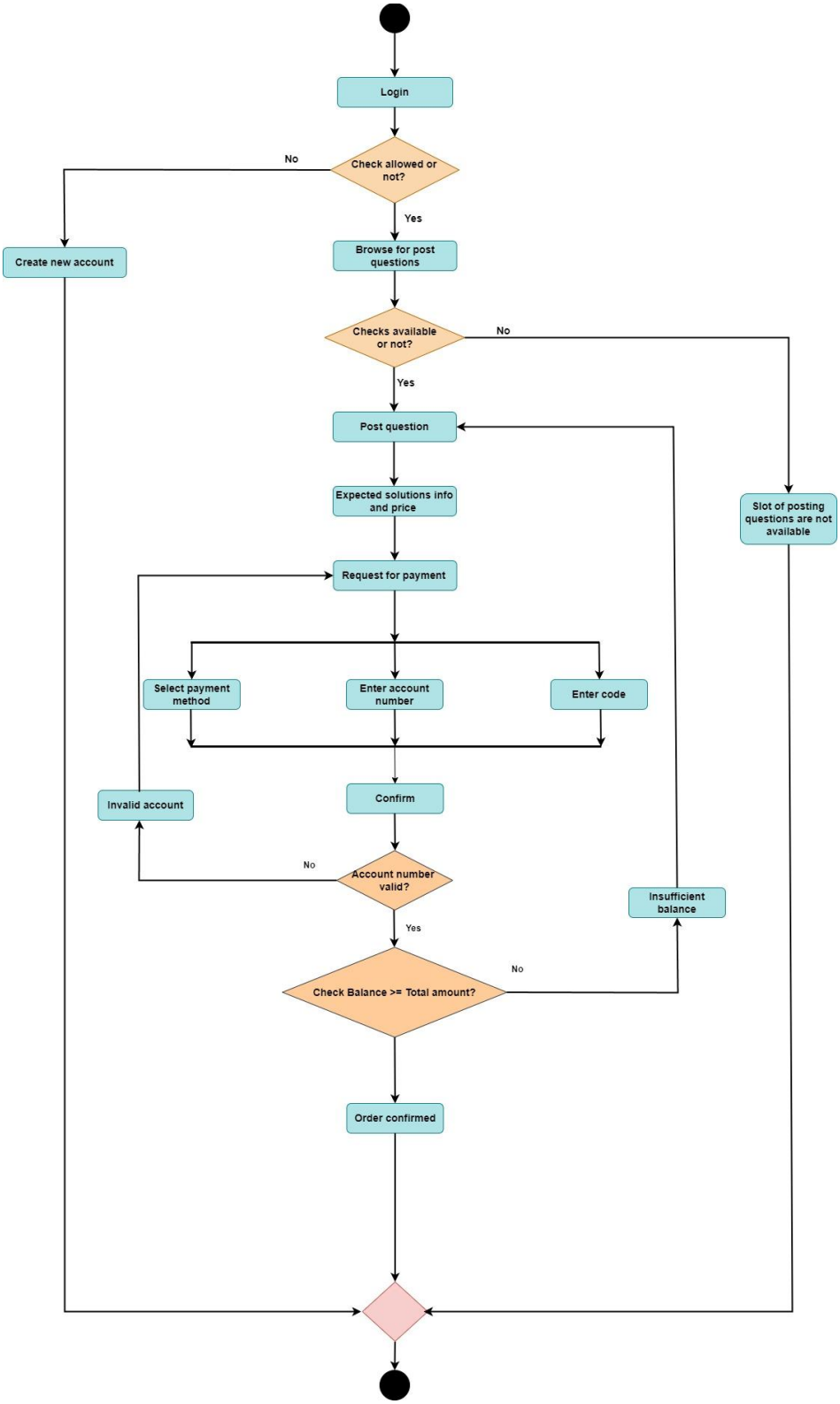
PM: Person-months needed for project
SLOC: Source lines of code = 20000
P: Project complexity (1.04-1.24)
DM: Duration time in months for project.

T: SLOC-dependent coefficient (0.32-0.38)
ST: Average staffing necessary.
Our project is Organic type.

So, Effort = PM = Coefficient <EffortFactor>*(SLOC/1000) ^P
= 2.4*(20000/1000) ^1.05
= 55.75

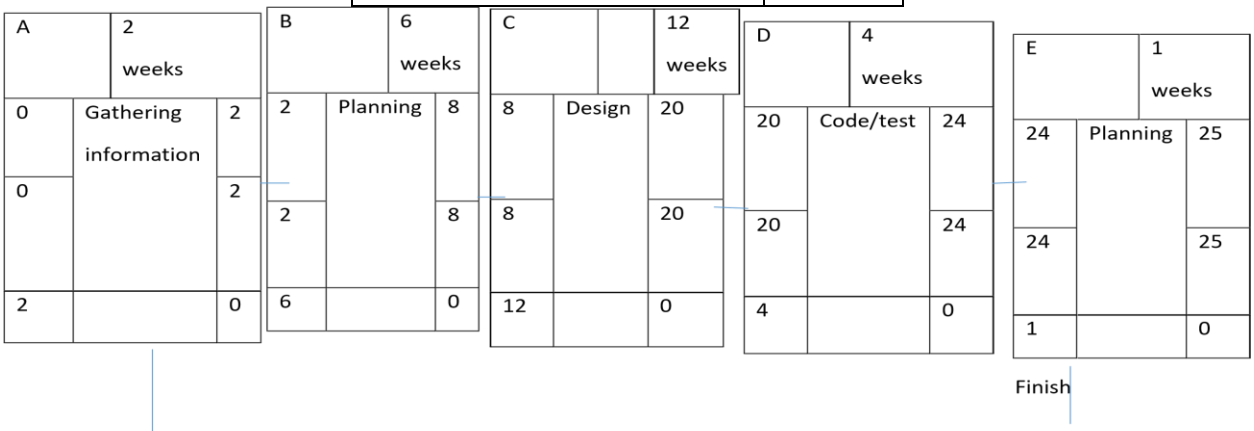
Development Time = DM = 2.50*(PM) ^T
= 2.50*(55.75) ^0.38
= 11.52
Required Number of People = ST = Effort (PM)/Development Time (DM)
= 55.75/11.52 = 4.83

11. Activity Network Diagram:



Activity Label	Duration	
Earliest Start	Activity Description	Earliest Finish
Latest Start		Latest Finish
Activity Span	Float	

Activity	**Duration**
Gathering Information	2
Planning	6
Design	12
Code/Test	4
Review & Launch	1



Start

Finish

Scheduling Activities:

Serial	Tasks	Duration	Responsibility
1	Gathering information	2 weeks	Developer/Tester
2	Planning	6 weeks	Testing team lead
3	Design	12 weeks	Testing team lead
4	Code/Test	4 weeks	Developer/Tester
5	Review and launch	1 weeks	Developer/Tester

12.0 Risk Analysis:

A risk factor cam hampers total progress as well as achievements of the project give to Project manager and project team. Risk are the potential problems that might affect our projects total progress. Risk analysis helps the software team understand and manage issues during development process.

Uncertainty during development process

Users' changes requirement at development stage	PS	60%	2	- Clarifying the scope of change and policy to the customer - Must have a change control committee
Technology that not meet expectation	TE	20%	1	- LTS versions where possible - Using decoupling methods as need basis
Breaking changes is prebuilt/pre shipped packages	TE	20%	2	- Prevent repository modules form

				updating automatically - Use version control system
Total funding could be lost	CU	40%	1	- Engagement with clients frequently can result early funding - Upfront payment

13.0 Budget for the project:

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14.0 Conclusion:

In conclusion, the project aims to provide accurate information to users for research or daily purposes, which can have a significant impact on the user's daily life by saving time and enabling them to invest it elsewhere. The project's main contribution is in bridging the gap of knowledge by allowing the sharing of necessary information more openly and accurately, benefitting both newer and older generations. The project aims to remove false information and prevent the spread of rumors that can lead to frequent affliction.

While current software solutions such as Research Gate, LinkedIn, and Twitter provide feasible solutions, the easy accessibility of these platforms has led to the spread of more rumors than accurate information. The project seeks to address this problem by carefully selecting its experts through a thorough background check process. This ensures that the information shared is provided by individuals with a certain level of experience and knowledge in their respective fields, promoting a culture of accuracy and reliability in information-sharing.

Overall, the project's focus on accuracy, reliability, and expert selection has the potential to make a significant contribution to the field of information-sharing and benefit society more broadly.