

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

**ShobKaaj – One App for Every Task Near You.**

A Software Engineering Project Submitted

By

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| --- | --- | --- | --- | --- |
| **Semester: Summer\_21\_22** | | **Section:** | **Group Number:** | |
| SN | Student Name | Student ID | Contribution (CO3+CO4) | Individual Marks |
|  | Syed Al Mahmud | 23-50168-1 |  |  |
|  | Ashik Chandra Karmaker | 22-48142-2 |  |  |
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The project will be Evaluated for the following Course Outcomes

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| **CO3:** *Select* appropriate software engineering models, project management roles and their associated skills for the complex software engineering project and evaluate the sustainability of developed software, taking into consideration the societal and environmental aspects | Total Marks | |
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| Appropriate Process Model Selection and Argumentation with Evidence | [5 Marks] |  |
| Evidence of Argumentation regarding process model selection | [5Marks] |  |
| Analysis the impact of societal, health, safety, legal and cultural issues | [5Marks] |  |
| Submission, Defense, Completeness, Spelling, grammar and Organization of the Project report | [5Marks] |  |
| **CO4:** *Develop* project management plan to manage software engineering projects following the principles of engineering management and economic decision process | Total Marks | |
|  | |
| Develop the project plan, its components of the proposed software products | [5Marks] |  |
| Identify all the activities/tasks related to project management and categorize them within the WBS structure. Perform detailed effort estimation correspond with the WBS and schedule the activities with resources | [5Marks] |  |
| Identify all the potential risks in your project and prioritize them to overcome these risk factors. | [5Marks] |  |

Description of Student’s Contribution in the Project work

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| Student Name: Syed Al Mahmud  Student ID: 23-50168-1  Contribution in Percentage (%):  Contribution in the Project:   * Contribution Description 1 * Contribution Description 2   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Signature of the Student |
| Student Name: Ashik Chandra Karmaker  Student ID: 22-48142-2  Contribution in Percentage (%):  Contribution in the Project:   * Contribution Description 1 * Contribution Description 2   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Signature of the Student |
| Student Name:  Student ID:  Contribution in Percentage (%):  Contribution in the Project:   * Contribution Description 1 * Contribution Description 2   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Signature of the Student |
| Student Name:  Student ID:  Contribution in Percentage (%):  Contribution in the Project:   * Contribution Description 1 * Contribution Description 2   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Signature of the Student |
| Student Name:  Student ID:  Contribution in Percentage (%):  Contribution in the Project:   * Contribution Description 1 * Contribution Description 2   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Signature of the Student |

# PROJECT PROPOSAL

## Background to the Problem

Bangladesh has a large and diverse workforce, consisting of skilled laborers, students, freelancers, homemakers, and unemployed rural youth. However, many of them face challenges in finding steady employment or trustworthy clients. Similarly, homeowners, students, and small businesses often need quick, reliable help for everyday tasks like tutoring, delivery, repairs, event setup, etc., but struggle to find verified workers.

The root cause of this issue lies in the fragmented and informal nature of job opportunities and service access in Bangladesh. There is no unified, trusted platform that connects people who need services with skilled individuals available nearby. Existing apps and job boards are either too niche (e.g., only for tutors or freelancers) or lack verification and safety features. Rural workers especially remain disconnected from digital job markets due to low tech access or platform relevance.

This problem is important because it affects both economic growth and social well-being. Millions remain underemployed or unemployed, while others face delays, scams, or high costs due to the lack of reliable help. Addressing this can improve income distribution, digital inclusion, and overall societal efficiency.

## Solution to the Problem

The objective of the proposed project, “ShobKaaj”, is to develop a secure, user-friendly mobile platform that connects clients and workers in one place for all kinds of local services. It will bridge the gap between job seekers (especially rural and underrepresented groups) and job providers, ensuring verified, efficient, and trustworthy transactions.

Proposed Solutions:

1. GPS-based Matching: Clients and workers can find each other based on their real-time locations.
2. Verified Profiles: NID or mobile-based verification to ensure safety and trust.
3. In-App Communication: Real-time chat to discuss job details.
4. Digital Wallet Integration: Support for popular services like bKash, Nagad.
5. Multilingual Support: Bangla-first interface with rural dialect options.
6. Badges & Ratings: Encourage trust and reward quality service.

Basic Functionalities:

* Clients: Can post jobs with title, description, budget, deadline, and location; browse worker profiles; chat and hire; give ratings.
* Workers: Can build profiles with photos, skills, and experience; receive instant job alerts; apply and communicate; get paid and rated.
* Universal: Location-matching, in-app wallet, ratings, badge system, NID/phone verification, rural accessibility features.

Target Users and Benefits:

* Clients: Homeowners, students, event organizers, shopkeepers—get easy access to trustworthy local help.
* Workers: Students, women, freelancers, rural and semi-urban laborers—gain flexible work opportunities and verified payments.

Scientific and Societal Contribution:

“ShobKaaj” contributes to the development of digital marketplaces by combining location-aware algorithms, secure identity checks, and real-time communication in a single mobile app. It has cultural and social impact by enabling flexible work for women, promoting financial inclusion, and reducing digital inequality, especially for rural and semi-urban populations.

Literature Review:

Global platforms like TaskRabbit, Upwork, and Fiverr focus on niche work categories and lack regional or informal labor support. In Bangladesh, platforms like Bdjobs, Sheba.xyz, or Kormo Jobs exist but are either limited to formal employment or single job categories, without integrating full-cycle features like chat, GPS, or mobile payment.

How “ShobKaaj” Extends Existing Solutions:

* Covers more job types (blue-collar, errands, tuition, freelance).
* Stronger focus on rural, underrepresented users with a simplified Bangla interface.
* Combines chat + job matching + verification + payment in one app.
* Promotes safe, flexible work through trust badges, live ratings, and local language support.

# SOFTWARE DEVELOPMENT LIFE CYCLE

## Process Model

* Provide an analysis regarding the nature and environment of the software that you are going to develop and select the best suitable method(s) to develop the software.
* Present your arguments based on your analysis about why your selected method(s) is the best choice among all other methods to develop your proposed software.
* Presents sufficient amount of evidence to support argument for your model selection in developing your proposed solution.

## Project Role Identification and Responsibilities

* Identify all the roles/stakeholder in the software/project management activities in software development.
* Describes the responsibilities of the role in the software development.

**Text Format:**

* Style: Times New Roman
* Size: 12
* Space: 1.0
* Alignment: Justify
* Length: Maximum 6 pages (including cover page)

## Rubric for Project Assessment (CO3)

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| Criteria | Marks distribution (Max 3X5= 15) | | | | Acquired  Marks |
| **Inadequate (1-2)** | **Satisfactory (3)** | **Good (4)** | **Excellent (5)** |
| Selection of Software Engineering Models | 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 |  |
| Impact identification |  |  |  |  |  |
| Formatting and Submission | 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: | | | | |  |

## Rubric for Project Assessment (CO4)

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| Marking Criteria | Marks Distribution (Maximum 3X5=15) | | | | Acquired Marks |
| **Inadequate (1-2)** | **Satisfactory (3)** | **Good (4)** | **Excellent (5)** |
|  |  |  |  |  |  |
| Project Planning | 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. |  |
| Effort Estimation and Scheduling | 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 |  |
| Risk Management | 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: | | | | |  |