
Department of
Computer Science and Engineering

# Lab No. 01

# Title: Team Formation, Project Assignment, Proposal Preparation and Planning

Integrated Design Project I

CSE 324


Green University of Bangladesh

# 1 Objective(s)

- To form a team.
- To prepare a project proposal
- To develop a system including objectives, problem domain, motivations, related works and methodology.
- To develop a plan including feasibility study, risk analysis, human resource planning, gantt chart for project monitoring and tracking, and budget preparation.

# 2 Problem Analysis and Motivations

Problem analysis for example of "ATM Management System" which is an electronic telecommunication system. This system involves the customers of financial institutions like banks, to carry out financial transactions, such as cash withdrawal, Balance Enquiry without any requirement of a bank clerk.

For an ATM Management System, a customer is a person who inserts or swipes plastic card with a magnetic stripe or a plastic smart card with a chip into an ATM containing a different card number. Post inserting the card the client is also asked to give his authentication by entering a special identification number (PIN) which must match with the PIN stored in the chip on the card (if the card has it equipped) or in the financial institution's database who has issued the card.

As huge data is to be maintained, so it is necessary to design and develop a system which will be efficient, error-free, automated and easily maintainable.

The software AMS is to be developed for Automated Teller Machine (ATM). An Automated Teller Machine is computerized system which will provide a secure platform for customers of banks to perform financial transactions in public places such as roads, malls, offices etc.; without any human intervention. This system will provide a user-friendly interface to access financial facilities provided by banks.

# 3 Literature Review

There are no hard international or government-compiled numbers totaling the complete number of ATMs in use worldwide. Estimates developed by ATMIA place the number of ATMs currently in use at 3 million units, or approximately 1 ATM per 3,000 people in the world [1,2].

To simplify the analysis of ATM usage around the world, financial institutions generally divide the world into seven regions, due to the penetration rates, usage statistics, and features deployed. Four regions (USA, Canada, Europe, and Japan) have high numbers of ATMs per million people [3,4]. Despite the large number of ATMs, there is additional demand for machines in the Asia/Pacific area as well as in Latin America [5,6]. Macau may have the highest density of ATMs at 254 ATMs per 100,000 adults [7]. ATMs have yet to reach high numbers in the Near East and Africa [8].

# 4 Methodology

Though this system involves a lot of user involvement, new system development must guarantees a system of high quality. It allows users and operators of the new management system to see how the system may look, feel and decide if there are new features to be added to it. By implementing a prototype, the users can see the inputs and outputs from the new system and can decide on what format they want, which can be changed until the user requirements are met, before the final system is built. It is a way of reducing risk, since any error noticed during development can be corrected immediately because the cost of correcting these errors at a later stage can be quite expensive. Methodology is a collection of methods, practices, processes, techniques, procedures, and rules. We can use here different project development methodologies here like agile method, waterfall method, Extreme Programming etc.

# 5 Feasibility Study

A bunch of feasibility study should be taken to compare the new system going to be build and the existing system. We have to study economical feasibility, Technical feasibility, operational feasibility etc.

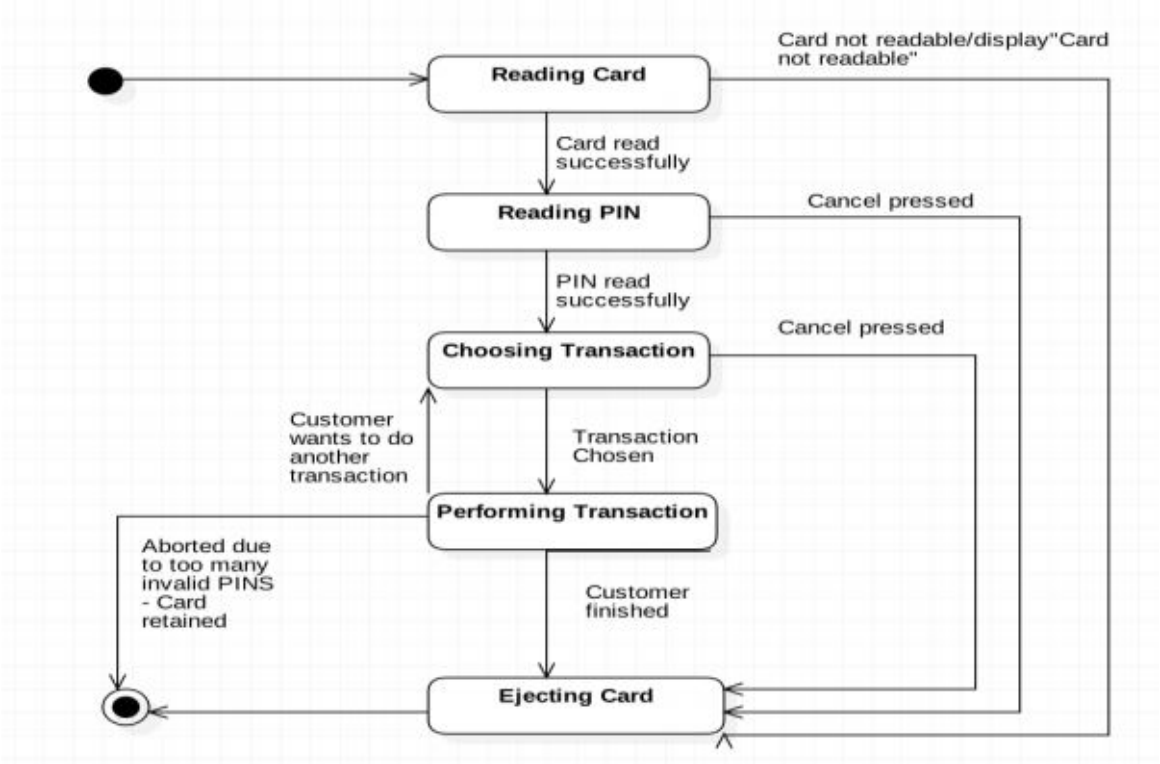


Figure 1: Block Diagram of ATM System

### 5.1 Technical Feasibility

- Calculate System accuracy, Calculate Growth potential rate
- Calculate Response time & Analyze User Friendliness

### 5.2 Operational Feasibility

- Calculate Operation time
- Analyze Reliability, Accuracy & Retrieval Rate

### 5.3 Economical Feasibility

- Check System performance, Check System operation
- Emphasize User training, Calculate Budget & Check Human resources

## 6 Main Phases

- Project proposal and planning.
- Requirement specification of a project.
- SDLC selection for a specific project.
- Developing data flow diagram (DFD) model of a project.
- Develop UML use case diagram for the given project.
- Develop UML sequence and communication diagram for the given project.
- Develop UML class diagram for the given project.
- Software testing.

| SL | Task | Required Week | Responsible person | Phase |
|---|---|---|---|---|
| 1 | Requirement Specification and Data Collection | 1 | Project Manager and team members | Research and Planning |
| 2 | Requirement Finalization | 1 | Project Manager and team members | Analysis |
| 3 | System Design and Modeling | 1 | Project Manager and team members | Design |
| 4 | System Modeling and Finalization | 1 | Project Manager and team members | Design |
| 5 | System Development (Coding) | 1 | Project Manager and team members | Implementation |
| 6 | Testing and Feedback sharing | 1 | Project Manager and team members | Testing |
| 7 | Beta Version Delivery for Feedback | 1 | Project Manager and team members | Testing |
| 8 | Feedback sharing and Requirement Change | 1 | Project Manager and team members | Testing |
| 9 | Delivery preparation with documentation | 1 | Project Manager and team members | Deployment |

# 7 Detailed Working Plan

See the following detailed working plans:

# 8 Gantt Chart of Project Development Timing

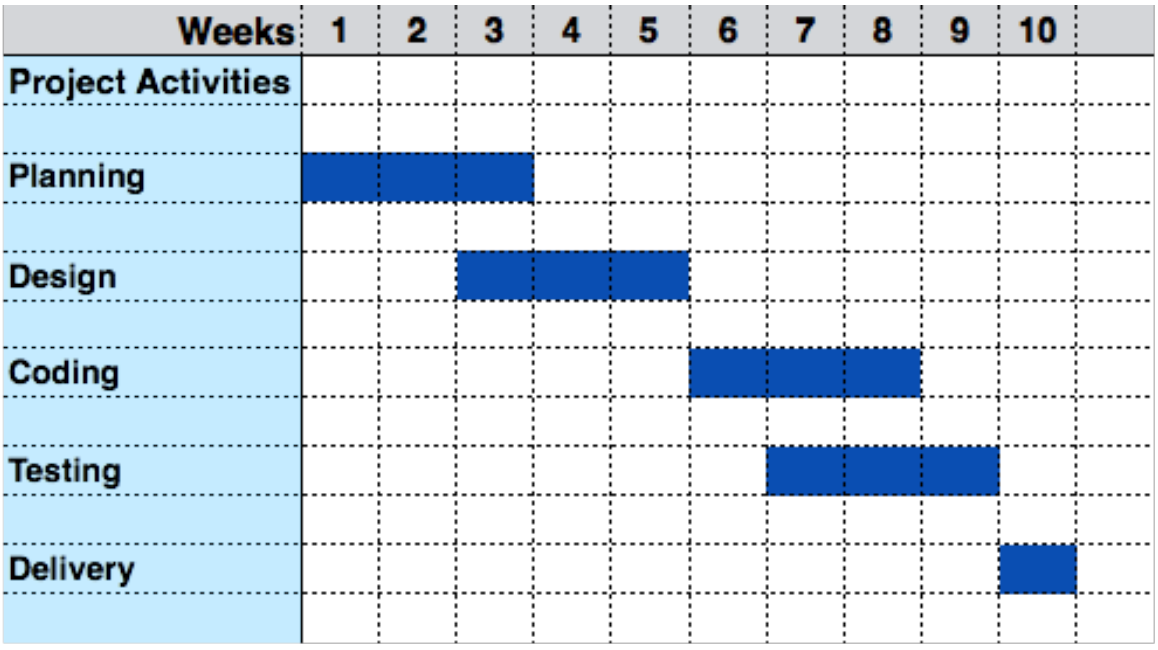


Figure 2: Project Development Timing

# 9 Budget Details of an ATM Banking System

See the following Budget details (Table 1)

Table 1: Budget Details

| SL | Criteria | Cost specification | Existing system(tk) | New system(tk) |
|---|---|---|---|---|
| 1 | Office Cost | Team meeting | 25,000 | 20,000 |
| | | Project meeting | 25,000 | 20,000 |
| | | First aid | 1000 | 500 |
| 2 | Website Cost | Website maintenance | 2,000 | 1,500 |
| 3 | Office equipment Cost | Computer | 10,00,000 | 9,50,000 |
| | | Laptop | 2,00,000 | 1,50,000 |
| | | ATM machine | 3,00,000 | 2,50,000 |
| | | CC Camera | 1,00,000 | 1,00,000 |
| 4 | Salary Cost | Team Leader | 2,00,000 | 2,50,000 |
| | | System Designer | 80,000 | 70,000 |
| | | Software Engineer | 1,00,000 | 1,00,000 |
| | | Animator | 60,000 | 60,000 |
| | | Developer | 50,000 | 50,000 |
| | | Officer | 40,000 | 38,000 |
| | | Sentry | 10,000 | 9,000 |
| | | Total cost | 21,93,000 | 20,69,000 |

# 10 Discussion & Conclusion

Based on the focused objective(s), to understand about project proposal planning, the additional lab exercise made us more confident towards the fulfilment of the objectives(s).

# 11 Lab Task (Please implement yourself and show the output to the instructor)

1. Prepare a detailed budget of a library management system.
2. Prepare a timelines of library management system using gantt chart.
3. Show the required information of library management project phases.

# 12 Lab Exercise (Submit as a report)

- Think about a new system with your partners and submit a report touching the above criteria.

# 13 Policy

Copying from internet, classmate, seniors, or from any other source is strongly prohibited. 100% marks will be *deducted* if any such copying is detected.

# References


1. "ATM Industry Association Global ATM Clock". Atmia.com. Archived from the original on 13 September 2011. Retrieved 15 September 2011.
2. "A million new ATMs installed in the last five years" (PDF). rbrlondon.com. Archived from the original (PDF) on 23 December 2016. Retrieved 22 December 2016.
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4. "Statistics on payment and settlement systems in selected countries - Figures for 2004". Bis.org. 31 March 2006. Archived from the original on 17 January 2011. Retrieved 11 February 2011.
5. "Central bank payment system information". Bis.org. 5 February 2001. Archived from the original on 16 January 2011. Retrieved 11 February 2011.

6. "EIU.com". EIU.com. Archived from the original on 11 November 2013. Retrieved 19 February 2014. Fraiser, Naill (5 May 2017).
7. "ATM withdrawals in Macau top HK$10 billion a month, as authorities ensure machines never run dry, source says". South China Morning Post. Archived from the original on 5 May 2017. Retrieved 5 May 2017.
8. "Archived copy" (PDF). Archived (PDF) from the original on 24 August 2006. Retrieved 11 August 2006.