

**American International University-Bangladesh (AIUB)**

**Faculty of Science and Technology (FST)**

**Department of Computer Science (CS)**

**SDPM Group Project, Fall 2022**

**Project Title** : Automatic plane ticket issuing system

**Section: C**

**Submitted by**

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1. **Introduction:**

This document contains all the details of our project management for the creation of the automatic plane ticket issuing system. This is our project's project management strategy, which contains all the information necessary to manage and carry out the project. Automatic plane ticket issuing is a system that helps in consolidating flight data -flight schedules, seat availability, flight fares and reservations from all airlines with the help of global distribution systems and provides real-time inventory and rates for customers and travel agents to book flight tickets online. The project manager, project sponsor, and project owners are the target audiences for this project document. owner, the participants in the project, and the client (certain information in the project plan may be private)information, we should consult our management group to determine which sections of the project plan we should inform the project team and client. The purpose of this text is to more effectively manage the project, effectively utilize the resources at hand, and finish the job within the time frame.**.**

**2.0 Project Title:** Automatic plane ticket issuing system

**3.0 Objectives:**

The purpose of this project is to design and create software that will automate important airline processes such as offering capabilities for online air ticket reservations and other procedures through an effective and yet easy user interface for a typical passenger traveling by air.

## Specific Goals

1. This software system to be built will be a simple user interface design that will be human centric.
2. It will reduce the unnecessary hassle of the passengers such as flight delays, manual processing delays, payment gateway issues.
3. It will enhance the efficiency, reduce the service time and minimize the resource utilization of the flight agencies.
4. Moreover this project will increase the profit margin.

**4.0 Justification:**

First of all, consumers will have the ability to book a seat without paying any money, allowing them to simply cancel a reservation without incurring any fees. It will primarily save travelers money and time, and they may also replace their trip plans if they choose do that for any emergency.

Because of aircraft delays or cancellations, manual document screening, and other factors that raise the crew's overall workload and may put their health at danger, the majority of air paramedics frequently experience high levels of stress. Additionally, because there are so many passengers to manually process each day, the air ambulance team can overlook a small fact about the unwell passenger that could endanger the health of other travelers. We may both shorten processing times and lower the percentage of errors brought on by manual processing by automating the process of examining health-related issues by merely giving each passenger a health card, similar to a passport.

**5.0 Systems Overview: (Includes Use case diagram)**

Diagram

Description automatically generated

Figure – Use Case diagram for Airlines Ticket Reservation

**6.0 Stakeholders analysis. In this section you have to find out different types of stakeholders of your project.**

A stakeholder is an individual, group, or organization who may affect, be affected by or perceive itself to be affected by a decision, activity, or outcome of a project. Stakeholderscan be positive as well as negative.

These factors include:

● Cost

●Time

● Scope

●Resource

* Quality
* Risk

**Internal Stakeholders**

The software developers, business analyst, tester, and project managers are one of the main internal stakeholders. Their main motive is the success of the company. If the company face losses, it would directly impact them in terms of their salaries and livelihood.

**Project Manager:** The Project Manager is the person assigned by the performing organization to lead the team that is responsible for achieving the project objectives.  The PM plays a critical role in the leadership of a project team in order to achieve the project’s objectives.

**Admin:** This group hire new employees. Cut down on unnecessary costs. Effectively utilizes the resources that contribute towards the success and increase profit for the company. They are also directly being impacted by the success of the company, as they are investing effort and time.

**Directors:** A board of directors is the governing body of a company, elected by shareholders in the case of public companies to set strategy and oversee management. The board typically meets at regular interval. They mostly take important decisions to make the project successful.

**Owners** - This is perhaps the most obvious stakeholder; the owners are internally and directly impacted by the success or failure of the organization.

**Security department -** This department is responsible for ensuring the network operation, monitoring the server weather they are functioning properly or not. If any employee faces any hardware related issues or any issues on their computer, they are responsible to resolve those issues.

**Coding and implementation department:** This department mainly follow the SRS. According to the SRS they code and develop the project or system.

**External Stakeholder:**

External stakeholders are people or factors that operate outside of the internal affairs of a business but still experience risk based on the business's performance.

**Users:** They are the most important external stakeholder of the software system. They take service through using the software. They pay for the service. That is why all requirements are built keeping the customers in mind and designed according to their comfort and convenience.

**Vendors:** The owns on you and your project team to make clear to the vendor, so that they can gauge the person or people best suited to work with you depending on who they have available. They may subcontract the work to other parties, which may or may not be within project control.

**Government:** Government gets tax for each ticket transaction. They also get a cut for the import export activities.

**7.0 Feasibility study: In this section you discuss both technical and financial feasibility for development of the system**

## Technical Feasibility

The necessary number of software developers are available to build the software. The servers are also capable of providing the service without constant supervision of any onsite software engineer. It will notify the software engineers through cloud monitoring tools if any error occurs. Moreover, today there are excellent Internet service providers that offer over 99% service up-time that will consistently provide stable, quality service for the customers. We also have the required software tools and the hardware to develop the whole software system.

HW Requirement (Min)-

* Memory: 2 GB
* GPU: INTEL HD Graphics 520
* CPU: Intel Pentium Gold G6400

SW Requirement-

* OS: Windows 7/10/11
* Database software: XAMPP
* Language: PHP/HTML/CSS/JavaScript

It can be concluded that the project is feasible in terms of technical assessment.

## 7.2 Financial Feasibility

This project will reduce the hassle of manual processing and reduce the delay also. So, there are a huge number of people who are willing to pay that extra service charge to eradicate those hassles. That increases the chance of earning consistent profit through this business investment.

Development cost BDT 6400000

Tester BDT 600000

Project Manager BDT 1120000

Project Co-Ordinator BDT 800000

Consultant BDT 1600000

Office space BDT 800000

Utilities (water, internet,

BDT 160000 electricity, Miscellaneous)

10% overhead cost for safety BDT 1148000

Total Cost BDT 12,628,000

Proposed budget to the client for the project is BDT 17,000,000

Total cost of the project with profit included: BDT 16, 500, 000

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.

**Feasibility Study: Comparing with the bank’s interest rate**

Since the local corporate banks offer 7% interest rate

Then the profit from BDT 12,628,000 investment will be

12,628,000\*7% = BDT 883960 (yearly profit)

Then the profit for 16 months (project duration) would be

= (883960/12) \*16 = BDT 1178614 (around 11 lacs)

On the contrary the estimated profit from the project is 30% of the entire budget of the project

Which is = 12,628,000\*30% = BDT 3788400

In the case we undergo with the decision of implementing the project, the profit margin is significantly higher than earning profit from bank interest. The metrics show that the profit from building the project is almost 4 times than the profit gained from bank interest. So, it can be stated that the project is financially feasible with the proposed budget of BDT 17,000,000.

**8.0 Systems component: You need to breakdown the whole systems into different component in this section.**

The system components are identified below using the Work Breakdown Structure (WBS)

Diagram

Description automatically generated

**9.0 Process Model to be followed: In this section you have to point out the process model you want to follow with justification**

**10.0 Efforts estimation: Based on the information given in the section 7, you need to identify how many programmers are needed to implement the complete system (Here you can follow the WBS (Work Break Down Structure)**

**11. Activity Network Diagram: Draw the precedence activity network diagram for scheduling your project (Identifying different activities)**

**12.0 Risk Analysis:**

**Risk Analysis:**

The possible risk for the prposed is given in the following risk table.The probability is between 0%-100% where 100% is highest occurance.Value 10 indicates that it would be catastrophic & 0 has negligible for the project.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Risks** | **Probability** | | **Impact** | | **RMMM** | |
| System Failure | 10% | | 9 | | Make sure the components pass the required test cases before integrating the system. | |
| Technology will not meet expectations | 5% | | 2 | | Check whether the technologies are acquired. | |
| Late delivery | 80% | | 7 | | Make sure the project progress is on track,other take immidiate actoin. | |
| Poor productivity | 30% | | 3 | | Set achievable timeframes and a sustainable pace during project estimations to avoid burn-out of staff. | |
| Poor comments in code | 20% | | 5 | | Train the programmers. | |
| Inadequate risk management | 40% | | 7 | | Including risk in estimations .Find out the root cause and attempt for risk reduction procedures. | |
| Unrealistic schedules and budgets | 40% | | 7 | | Using Historical data and using multiple models for estimation. | |
| Find users resist system |  | 10% |  | 5 | | The system passes the acceptance test,try to come to an understanding with the client. |

**13.0 Budget for the project**

Proposed project budget with profit included:BDT 16,43,000

Development cost 8\*50000\*16 = BDT 6400000

Tester 2\*50000\*6 = BDT 600000

Project Manager 1\*70000\*16 = BDT 1120000

Project Co-Ordinator 1\*50000\*16 = BDT 800000

Consultant 1\*10000\*16 = BDT 1600000

Office Space 16\*50000 = BDT 800000

Utilities 10000\*16 = BDT 160000

10% overhead cost for safety BDT 1148000

Total Cost BDT 12,628,000

**14.0 Conclusion:**

This project will introduce a fresh approach to ticketing processes. Online ticket distribution and management will be used. This program, however, does not prevent walk-in customers from buying tickets directly from the ticket counter. They are also given it. As with the earlier ticketing method, this method requires less paperwork.

The "Airline Ticket Reservation System" software package supports the online filing of executive reports and the online viewing of executive reports by the top management. Preparing the different reports required a laborious manual process but this approach will solve those issues and reduce the required time by a large amount. This package will be constructed and developed in a way that enables it to meet the user's needs and serve them more effectively and efficiently. The true problem has been observed carefully and resolved and planned accordingly.

The additional advantage of this system is that it provides options for future development so that future users’ needs may also be met and updated with time.

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