Software Engineering and Testing

2014

Feasibility Study

Institute of Technology Blanchardstown



Under Supervision

Simon McLoughlin Lecturer IT Blanchardstown

Group Members

B00058026 – Nicky Randles

Email: [B00058026@student.itb.ie](mailto:B00058026@student.itb.ie)

B00053401 – Anthony Manson

Email: [B00053401@student.itb.ie](mailto:B00053401@student.itb.ie)

Table of Contents

1. The Client 4

2. The Project 4

3. Benefits 4

4. Scope 4

5. Walkthrough Scenarios 5

5.1 User 5

5.2 Administrator 5

6. Preliminary Software Requirements Analysis 5

6.1 Functional Requirements 5

6.1.1 End User 5

6.1.2 Administrator 5

6.1.3 System 5

6.2 Non-functional Requirements 6

7. Technical Requirements and Feasibility 6

8. Deliverables 6

8.1 Management Deliverables 6

8.2 Technical Deliverables 7

9. Software Development Process 7

10. Risk Analysis 8

11. Visibility Plan 8

12. Preliminary Project Plan 9

13. Conclusion…………………………………………………………………………………………………………………….10

# 1. The Client

Cinema, Dublin

# 2. The Project

The aim of this project is to develop an online cinema ticketing office.

* Create a 24hours, 7days a week ticketing for users.
* Simple and easy to use GUI that allows user and Administrator to use the system
* Create an application for user registration and order
* Incorporating the data store to areas of future growth.

# 3. Benefits

* An online office such as this will allow the cinema to sell their tickets 24 hours a day, 365 days a year.
* It increases profits of the company.
* Create a database of customer preferences and choices
* Understanding the best way to communicate to
* Create an interactive questionnaire to find out future expectation for the purpose of growth

# 4. Scope

This software will be designed and developed to allow customers to order, reserve film tickets of “Cinema” via an online webpage.

This software will allow the end customer to film items information, to choose some of them and order his particular choice; he/she will receive an order confirmation

**5. Walkthrough Scenarios**

5.1 User

Users should be able to register and logon into the web page, or simple logon if the user is an existing registered.

The user will be able to browse a catalogue of films that includes title and quick preview of the selected film.

The user can select a film and add extras from a personal “Shopping basket”.

User can place an order for the contents of the “Shopping basket”, the order will be stored in the application's database.

5.2 The system

The system after logon will have to an administration page so he can insert, update or delete items of the catalogue of the film store webpage.

**6. Preliminary Software Requirements Analysis**

6.1 Functional Requirements

6.1.1 End User

* + Register: The user must register into the system to be able to logon and to the public facilities of the webpage.
  + Logon: After the user is registered, he should logon to the catalogue and services of the webpage.
  + Browse film catalogue: The user can check the list of the film catalogue and read a short a short review.
  + Add and remove extras from the “Shopping basket”: The online system should allow the user to select and deselect extras out of the list of products to order.
  + Enter credit card information and delivery address: After select all the items, the user should enter his/her credit card details and the delivery address.
  + Place an order: The user confirms the items that he/she wants to buy, the order is stored in the database, and then finally the user receives a confirmation of his/ her order.

6.1.2 Administrator

* + Insert product: The administrator can add new items to the catalogue.
  + Delete product: The administrator can delete items from the catalogue.
  + Update product: The administrator can change the name, description, image, price, etc. of any item of the catalogue.

6.1.3 System

* + Check data integrity: The system checks if the data inserted in forms has the right format. E.g. email has to be email format.
  + to the database: The database should be easily accessible to the System, the users and changes, updating of the orders.
  + Calculate amounts of the orders: The system will calculate the total amount to pay for every order, also the total and summary of the items bought.

6.2 Non-functional Requirements

* + The web pages of the online system must load quickly, in 4 to 5 seconds or less.

**7. Technical Requirements and Feasibility**

1. Development language: The system software will be implemented in Java SE using JDK 1.6. A standard PC will be used for system prototype (demonstration model) development and the JDK are readily available.

*Persistent storage:* A database will be used to store the users and user orders. MySQL will be used to develop this with JDBC (Java Database Connectivity) interaction.

*Interface:* The servlet container will generate the interface in HTML code that the user's web browser will interpreted.

*Servlet container:* The application will work with the servlet container Resin 3.0.12 (Microsoft Windows).

# 8. Deliverables

## 8.1 Management Deliverables

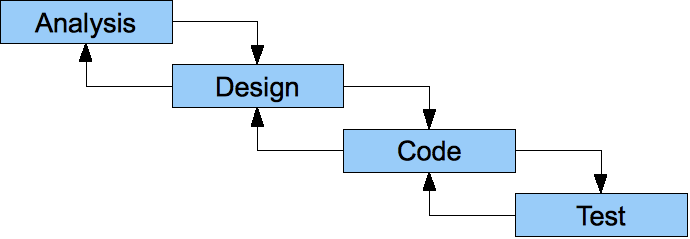
1. *Feasibility Study and Project Plan:* These parts will analysis how viable the project is. The project feasibility will be assessed and the project scope will be defined, explained, risks and benefits are assessed, the project structure is detailed and the project is roughly planned approximately functionality development priorities are defined. System creation risks are assessed. When project plan is agreed, we will move on to the next stage of drawing task timetable and delivery dates
2. *Analysis and Design document:* The Object design methods will be use with full description of all functional and non-functional parts of the project and the System requirements.
3. *Source Code:* The source code will map to analysis and design model when implementing the project
4. *Testing document:* At the end this stage, the performance and testing stage should be ready to be implemented. All test cases and result of the test will be tabulated and presented.

## 8.2 Technical Deliverables

1. Java Server Pages.
2. JavaBeans compiled and their source code.
3. A MySQL database.

# 9. Software Development Process

We will be using a modified waterfall model as the software process model for the project. The modified waterfall model will be used to develop the software process step by step. This model helps to make the project development more clearly understandable as it separates the tasks that are shown. We are using a modified waterfall model as the original waterfall model has a drawback that we want to avoid. This drawback is that one phase of the model must be completed before moving onto the next one. The modified model offers some flexibility when it comes to force, force must be omissions or misleading.



# 10. Risk Analysis

Inconsistent Or Incomplete Requirements: If both group members do not communicate properly with each other it is possible that some project requirements may be misunderstood amongst the members.

Solution: The group members need to communicate clearly with each other and also lay out a clear visibility plan

Human Resources: We are working in a small group which only consists of two members. We are not very experienced in software development. If we had more members, we would more like have people better in some areas of software development.

Solution: We will need to spend more time in analysis and design. We will also have to dedicate some more time to learning about software development.

Use of Sensitive Data: This program will be accessing data that is sensitive to the customer. For example, their credit card details. It is important that this information does not get into the hands off an unauthorised person.

Solution: It is very important that we use encryption in data transfers and in data storage to prevent unauthorised access.

# 11. Visibility Plan

The members of the group will meet up three times a week in the library and will also communicate through email to come to an agreement on project objective. Both members will work together to help one another understand each of the stages as we advance further into the project. Both members will have different approaches about dealing with the project but should be able to come to a mutual agreement. Both members will have different tools and sources to help with the project. We will keep a work diary so the we know who is working in what area of the project as we advance.

**12. Preliminary Project Plan**

We have created a Gantt chart to show the tasks which each member will carry out and the duration distributed to each of them.

|  |  |  |  |
| --- | --- | --- | --- |
| **Task** | **Member** | **Duration** | **Deliverable** |
| 1 | 1 | 2 | Feasibility Study |
| 2 | 2 | 2 | Feasibility Study |
| 3 | 1 | 1 | System Analysis |
| 4 | 2 | 2 | System Analysis |
| 5 | 1 | 2 | System Design |
| 6 | 2 | 1 | System Design |
| 7 | 1 | 1 | Student Interface |
| 8 | 2 | 2 | Administrator Interface |
| 9 | 1 | 2 | Database |
| 10 | 2 | 2 | Development Testing |
| 11 | 1 | 1 | Integration Testing |
| 12 | 2 | 1 | Integration Testing |
| 13 | 1 | 1 | System Testing |
| 14 | 2 | 1 | System Testing |
| 15 | 1 | 1 | Acceptance Testing |
| 16 | 2 | 1 | Acceptance Testing |

# 13. Conclusion

The team has agreed on this feasibility study and analysis. We have come to the conclusion that the project is feasible and we are ready to start. We hope to stick to the project schedule but we are anticipating changes and updates. This project has huge potential and benefits. The project cost involves all various stages including labour costs. If all goes to plan, all stages of the project would be completed by end of March 2014 and the project would be delivered.