**Project Proposal**

**On**

**E-commerce**

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**Computing Project**

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**Table of Contents**

[**1** **Introduction** 4](#_Toc534380675)

[**1.1** **Project Introduction** 4](#_Toc534380676)

[**1.2** **Justification for project** 4](#_Toc534380677)

[**1.2.1** **Background of the project** 4](#_Toc534380678)

[**1.2.2** **Problem Statement** 4](#_Toc534380679)

[**1.3** **Description of project** 4](#_Toc534380680)

[**1.3.1** **Features** 4](#_Toc534380681)

[**2** **Project Scope** 4](#_Toc534380682)

[**2.1** **Scope and limitation of project** 4](#_Toc534380683)

[**2.2** **Aims and Objectives** 4](#_Toc534380684)

[**3** **Development Methodology** 5](#_Toc534380685)

[**3.1** **Methodology used** 5](#_Toc534380686)

[**3.2** **Design Pattern** 5](#_Toc534380687)

[**3.3** **System Architecture** 6](#_Toc534380688)

[**4** **Work Breakdown Structure (WBS) / Scheduling** 6](#_Toc534380689)

[**4.1** **Work Breakdown Structure** 6](#_Toc534380690)

[**4.2** **Milestones** 6](#_Toc534380691)

[**4.3** **Scheduling / Gantt Chart** 7](#_Toc534380692)

[**5** **Risk Management** 8](#_Toc534380693)

[**6** **Configuration Management** 8](#_Toc534380694)

[**7** **Conclusion of the project** 8](#_Toc534380695)

[**8** **References** 8](#_Toc534380696)

[Figure 1 Phases of waterfall model 6](#_Toc534496190)

[Figure 2: MVC design pattern 7](#_Toc534496191)

[Figure 3: Three tier architecture 8](#_Toc534496192)

[Figure 4: Work break down structure 9](#_Toc534496193)

[Figure 5: Scheduling time for tasks 11](#_Toc534496194)

[Figure 6: Gantt chart 11](#_Toc534496195)

[Figure 7: Github root directory 13](#_Toc534496196)

[Figure 8: Github proposal directory 13](#_Toc534496197)

[Figure 9: Local directory of project 14](#_Toc534496198)

# **Introduction**

## **Project Introduction**

E-commerce website is a modern design website that provide user to search, buy, share products easily. It helps client to find their desire products. It lets user to search, buy and share product online. Customer can shop products from trusted store, compare prices, read reviews and share products with friends.

## **Justification for project**

### **Background of the project**

In the present scenario the e-commerce sites are not as quick and effective as required. The delivery of product is not in time as the e-commerce site should provide. Hence to improve the quality of e-commerce site and to provide user the better experience on using the site, I am presenting a new e-commerce site. To build this project I have used the tools like project libre, Microsoft windows and other tools to complete this process. To achieve the aim of my project and generate the expected amount of work, I have managed the work properly as well as used the resources carefully.

### **Problem Statement**

In offline ecommerce, it was expensive and needs many staff to manage the store. Now with online e-commerce site, the products price can be lower as it does need to pay for the building rent or as many staff as it requires in offline store. And we can also get products from the manufacture. Local industry also get change to sell their products at lower price.

## **Description of project**

### **Features**

The features of the project are listed below:

* **User can sign up and login**

User can easily create their account and login into the website.

* **User can upload their products**

Developers can upload their products in the application and make available for customers.

* **Add products to wish list**

User can add the product to wish list if he/she like the product.

* **Rate and comment products**

User can rate and comment about product.

* **Get help from developer via online chat**

If user get confused, then they can chat with store owner or admin.

* **User friendly interface**

Anyone can use the application interface as it is easy to navigate, and simple design helps to understand easily.

* **Share products with friends**

It facilities to share products via social medias.

* **Filter and search products**

User can use filter products to find the exact product they are looking.

# **Project Scope**

## **Scope and limitation of project**

This application allows user to register and login. User can buy or sell any products from the website. The products can be filtered and searched according the user.

User can also chat with the shore owner if he/she needs help.

The main limitation of the project is that it does not have online payment system. The system relies on Cash-on-delivery which might be frustrating for some users because when the store receives the cash they might not give warrant of the products if the product is damaged. That’s the real problems of e-commerce site in our country.

## **Aims and Objectives**

**Aims:** The aims that I want to achieve are listed below:

* Customer should easily interact with the website and buy products according to their needs.
* Make sure that genuine products are sold by the store owner.
* To promote local products.

**Objectives:** Action that I will take to achieve my aim are:

* Customer will have the ability to sign-up their account and browse different products.
* Store manager must post their products along with related information regarding the product.
* To make application more user friendly, I will analyses on those type of people who uses sites more often and make website according to their preference.

# **Development Methodology**

## **Methodology used**

Waterfall methodology was used to develop the application. It is sequential life cycle model. It is sequence of process which we cannot overtake or skip until the previous phase has been completed. (tryqa, 2019)

The waterfall methodology was used because of following reasons:

1. It is simple and easy to understand.
2. Progress of my project can be tracked easily.
3. My project has clear requirement, so I think waterfall model is suitable for my project.

Figure 1:Phases of waterfall model

## **Design Pattern**

I followed MVC design pattern which stands for Model-View-Controller.

1. **Model**

Model represent logical structure of data of software application.

1. **View**

It is a collection of classes representing user interface.

1. **Controller**

It is used to communicate between the classes in model and view.

The reason of choosing MVC design pattern are: (interserver, 2018)

* **Faster development process**

It supports parallel development which means that one programmer can work on application design and other can work on business logic simultaneously.

* **Modification does not affect entire model**

Model part does not depend upon view part, so any modification doesn’t entirely affect the architecture.

* **High cohesion and low coupling**

It makes low coupling among models and enables grouping of related logical action on a controller.

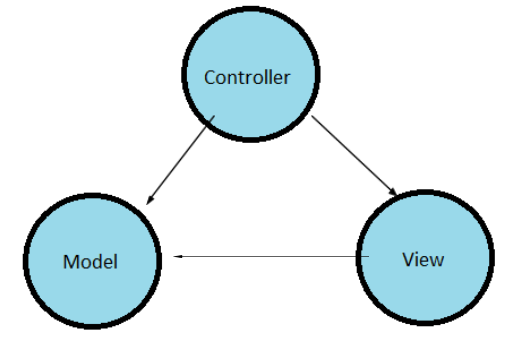


Figure 2: MVC design pattern

## **System Architecture**

3-tier architecture was used in the development of the project. It is divided into three layers. They are:

1. **Presentation**

Handles the interaction between user and the client business. For example, HTML5, CSS.

1. **Application**

Takes request from presentation tier and returns the output to presentation tier. For example, Java, .NET.

1. **Data tier**

Responsible for storing data and sending it to business tier. For example, MySQL, Oracle.

I have used 3 tier architectures because of following reasons:

1. **Scalability**

Middle tier can be added to make system run smoother. The system can work even hardware needs to be added and updated to load load-balance the presentation tier.

1. **Security**

Client is not directly access to the database. Middle layer protects the database tier ensuring strong security.

1. **Performance**

Presentation tier can cache requests, so network utilization is minimized and run smoothly.

1. **Maintainability**

It manages presentation code and business logic separately so change in business logic does not affect presentation layer. (ektron, 2019)

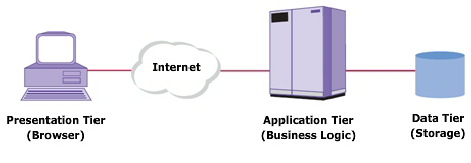


Figure 3: Three tier architecture

# **Work Breakdown Structure (WBS) / Scheduling**

## **Work Breakdown Structure**

All the things a project needs to accomplish in the project is displays graphically which helps to understand the projects activities clearly. The purpose of WBS is to break down complex activities into simple form.

Figure 4: Work break down structure

## **Milestones**

|  |  |
| --- | --- |
| **Milestones** | **Date** |
| **Project Management**  Risk Management  Work Breakdown Structure  Configuration Management  Proposal Submission | **12/21/2018 -1/3/2019**  12/21/2018 - 12/24/2018  12/25/2018 - 12/27/2018  12/28/2018 - 12/30/2018  12/31/2018 - 1/1/2019 |
| **Analysis**  Requirement Analysis  Use Case  Architecture (Initial Class Diagram)  Analysis Specification | **1/2/2019 - 1/25/2019**  1/2/2019 - 1/7/2019  1/8/2019 - 1/11/2019  1/12/2019 - 1/17/2019  1/18/2019 - 1/25/2019 |
| **Design**  Structural Diagram  Behavioral Diagram  UI Design  Database Design | **1/26/2019 - 2/24/2019**  1/26/2019 - 2/3/2019  2/4/2019 - 2/13/2019  2/14/2019 - 2/20/2019  2/21/2019 - 2/24/2019 |
| **Implementation**  Building Database  Coding | **2/25/2019 - 3/28/2019**  2/25/2019 - 3/1/2019  3/2/2019 - 3/28/2019 |
| **Testing**  Unit Testing  Integration Testing  Black box Testing  White box Testing | **3/29/2019 - 4/8/2019**  3/29/2019 - 3/31/2019  4/1/2019 - 4/2/2019  4/3/2019 - 4/5/2019  4/6/2019 - 4/8/2019 |
| **Deployment**  User Training  Final Report | **4/9/2019 - 4/18/2019**  4/9/2019 - 4/13/2019  4/14/2019 - 4/18/2019 |

**Description of Milestones:**

* **Project Management (12 days)**
  + - Risk Management (4 days)
    - Work Breakdown Structure (3 days)
    - Configuration Management (3 days)
    - Proposal Submission (2 days)
* **Analysis (24 days)**
  + - Requirement Analysis (6 days)
    - Use Case (4 days)
    - Architecture (Initial Class Diagram) (6 days)
    - Analysis Specification (8 days)
* **Design (30 days)**
  + - Structural Diagram (9 days)
    - Behavioral Diagram (10 days)
    - UI Design (7 days)
    - Database Design (ER, Data Dictionary) (4 days)
* **Implementation (32 days)**
  + - Building Database (5 days)
    - Coding (27 days)
* **Testing (11 days)**
  + - Unit Testing (3 days)
    - Integration Testing (2 days)
    - Blackbox Testing (3 days)
    - White box Testing (3 days)
* **Deployment (10 days)**
  + - User Training (5 days)
    - Final Report (5 days)

## **Scheduling / Gantt Chart**

Gantt chart is a scheduling chart which helps to keep track of work that we need to complete. It helps to track our milestone and keep our pace steady. Simply Gantt chart is the visual view of the scheduled tasks. Gantt chart can be used for planning the project. We can manage time of the project using Gant chart. It can be used in project of every size.

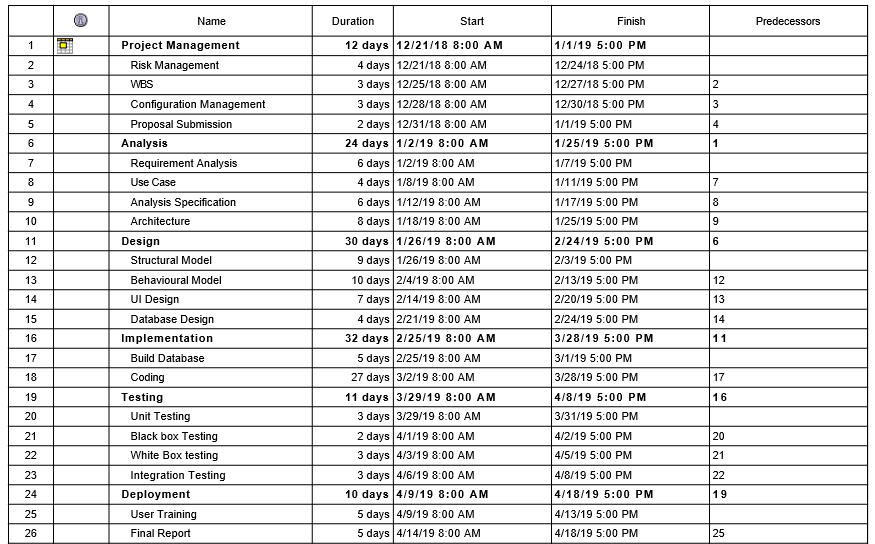
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Figure 5: Scheduling time for tasks

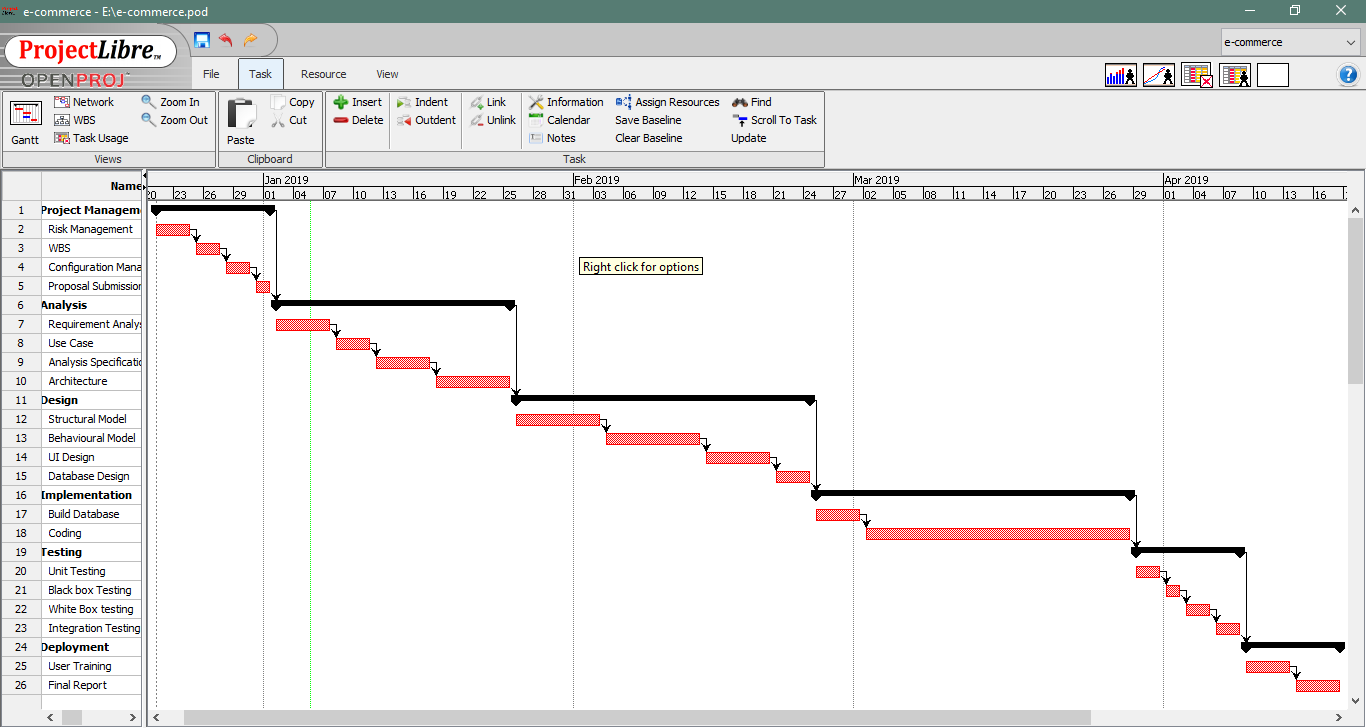
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Figure 6: Gantt chart

# **Risk Management**

It is the process of identifying and prioritizing possible threats to an organization or system. Harmful risk is analyzed and solution to the threats are prepared according to the impact of the risk.

How risk can be controlled?

Firstly, we need to identify the risks and take the feasibility study about the risk. It will help to identify the impact of the risk. After feasibility study we need to prioritize the higher risk and try to avoid them. If it not possible to avoid then we should mitigate it. If not mitigate then we can pay to accept that risk. Even if all this avoid, mitigate, transfer is not done then the best choice is accepting the risk.

**Impact = Likelihood \* Consequence**

Risk Likelihood values are shown as follows

|  |  |
| --- | --- |
| **Likelihood** | **Value** |
| Low | 1 |
| Medium | 2 |
| High | 3 |

Risk Consequence values are shown below

|  |  |
| --- | --- |
| **Consequence** | **Value** |
| Very low | 1 |
| Low | 2 |
| Medium | 3 |
| High | 4 |
| Very High | 5 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **S. No** | **Risks** | **Likelihood** | **Consequences** | **Impact** | **Solution** |
|  | Conflicts between stakeholder | 2 | 4 | 8 | Identify the interest and power of stakeholder to provide the information accordingly. |
|  | Cost and resources | 2 | 4 | 8 | Proper planning should be done at beginning about the cost to implement the system. |
|  | High Voltage | 2 | 4 | 12 | Implementation of voltage controller should be established. |
|  | DDOS attack | 1 | 4 | 4 | Placing the publicly exposed server in DMZ. |
|  | Database error | 1 | 5 | 5 | Analyze the data traffic and upgrade the hardware if necessary. |
|  | Server failure | 1 | 5 | 5 | IT security should be hired to monitor hardware and software of company. |
|  | Change in government policy | 1 | 5 | 5 | Should be aware about the situation of the country and make changes accordingly. |

# **Configuration Management**

Configuration management is used to keep track of application and related information which includes software version and updates. It keeps track of modification, changes and update of any projects.

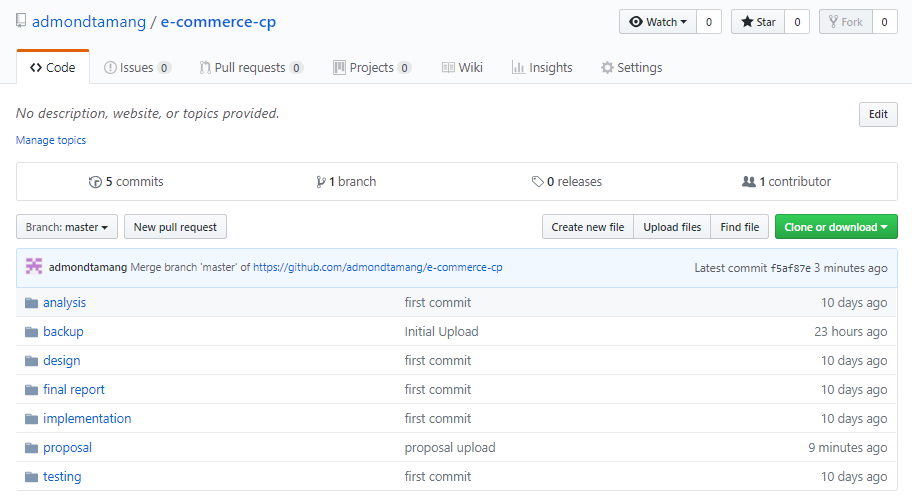


Figure 7: Github root directory

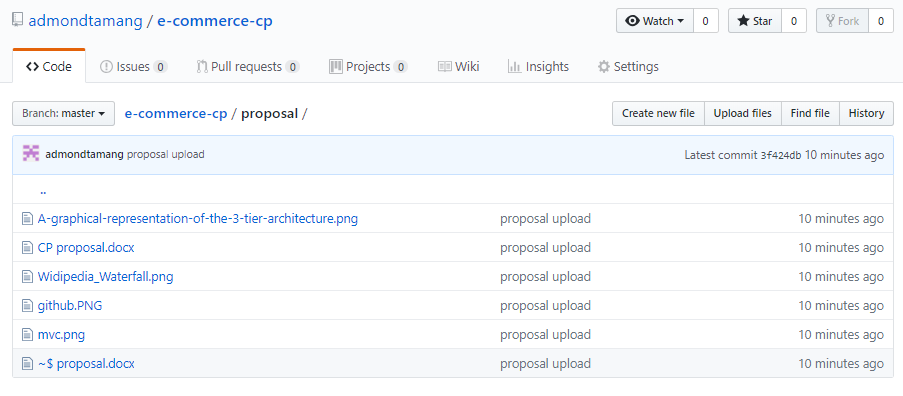


Figure 8: Github proposal directory

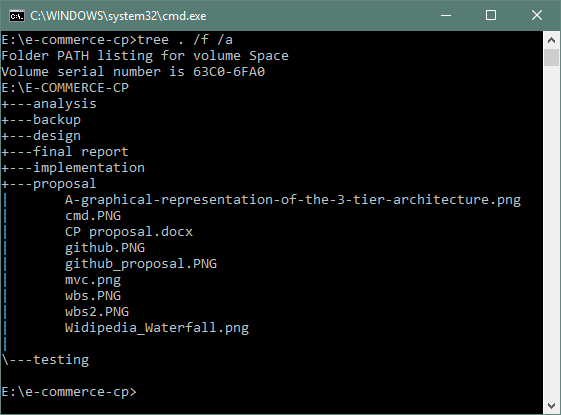


Figure 9: Local directory of project

# **Conclusion of the project**

All in all, after completion of this proposal lead me to accomplish clear idea about what I am supposed to develop and how my project will solve those problems that I mentioned at problem statement. Also, I have included featured that project should perform, projects major aims and objectives, scope and its limitations, development methodology, design patterns and system architecture, work breakdown structure and risk management processes. Which, will help me in success of project in time and development of good quality software.

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