**CHAPTER 2**

**FEASIBILITY STUDY**

1. **Financial Feasibility**

Being a web application JP: Jewelry Palace project involves analyzing costs and potential profits to determine whether the business is viable. In the beginning, to set up a website; Initial costs include website development, e-commerce platform fees, digital marketing, and inventory acquisition. Ongoing expenses encompass inventory management, website maintenance, customer support, and continuous marketing efforts. To project revenue, analyze market demand, pricing strategies, and potential sales volume. A detailed financial plan should include cash flow projections and a break-even analysis to determine how long it will take to recoup the initial investment and achieve profitability. By carefully examining these points, the viability and long-term success of an online jewelry business can be measured.

From these points it’s clear that the project JP is financially feasible.

* 1. **Technical Feasibility**

Project JP is a complete web-based application. The main technologies and tools that are associated with OSSS are HTML, CSS, JS, JSP, MySQL, Diagram tools (MYSQL Workbench).

Each of the technologies is freely available and the technical skills required are manageable. Time limitations of the product development and the ease of implementing using these technologies are synchronized.

Initially the web site will be hosted in a free web hosting space, but for later implementations it will be hosted in ą paid web hosting space with a sufficient Bandwidth. Bandwidth required in this application is very low, since it doesn't Incorporate any multimedia aspect.

From these it's clear that the project OES is technically feasible.

**2.3 Resource Feasibility**

Resource that are required for the JP project includes:

* Programming device (Laptop)
* Hosting space (freely available)
* Programming tools (freely available)
* Programming individuals

So, it's clear that the project JP has the require resource feasibility.

1. **Risk Feasibility**

Risk feasibility can be discussed under several context.

1. **Risk Associated with Size**

**Estimated size of the product in line of codes**

Being a web application with many numbers of stakeholders, OES will contain significant amount of code lines. As the system doesn't contain any multimedia aspect, the file sizes and the complete project size will not exceed 150MB.

**Estimated size of product in number of programs**

Exceed 150MB. Though the application supports many stakeholders, it will be constructed as a single web application with a single login page rather than having many numbers of sites for different users. Depending on the access rights, the contents will be showed or hidden.

**Size of database created or used by the product**

Database size will not exceed the values supported by MySQL (65526 entries per table). Number of relations and entities are minimized by using best practices of normalization theories.

**Users of the product**

The participants in this system are admin and customer.

**Number of projected changes to the requirements for the product? Before delivery? After delivery?**

The requirements are clearly identified before the implementation phase. Being a general product (not specific to a single user), the requirements will be changed only if new functionalities are added to the system.

**Amount of reused software**

Through the main logics are implemented throughout the project, JP will use some JSP libraries to incorporate additional functionalities such as to support file uploads.

1. **Business Impact Risks**

**Effect of this product on company revenue**

JP project significantly affected the company's revenue. The product meets current trends and customer preferences; This can attract a larger customer base and increase sales volume. Competitive pricing and effective marketing strategies can enhance both customer acquisition and retention, further strengthening its appeal. Positive customer feedback and reviews can boost its marketing, but high profit margins on this product can increase revenue

**Reasonableness of delivery deadlines**

Being a 4 weeks project, the project JP will have several deadlines and deliverables that are scheduled successively. Depending on the coding and designing cost and effort, the deadlines are quite reasonable.

**Number of customers who will use this product and consistency of their needs relative to the product**

As mentioned above, we can categorize stakeholders into 2 main categories. This system can support many users simultaneously due to the low bandwidth requirements.

**Sophistication of end users**

JP is designed while maintaining the complexity at a very low level. Usability is

highly improved by providing help documents and making GUIs easy to use.

**Amount and quality of product documentation that must be produced and delivered to the customer**

Customer will be provided with a complete online user manual. As the software is implemented as a freeware and opens source system, the code will be available for free.

**Costs associated with delivery**

At the initial stage the associated cost will be for the hosting cost.

1. **Customer Related Risks**

Inefficient customer support can result in delayed responses to queries or issues, impacting the overall customer experience negatively.

1. **Development Environment Risks**

* Are tools for analysis and design available?
* JP will require several designing software such as drawing MySQL workbench (database design).
* Are compliers or code generators available and appropriate for the product to be built?
* JSP will be used as the main scripting language. All the libraries and interpreter will be freely available.
* Does the environment make use of a database or repository?
* This is a database-oriented system that will use MySQL.
* Are testing tools available and appropriate for the product to be built?
* JUNIT is the main testing tool that will be used. JUNIT is freely available tool that supports automated testing.
* Are all the software tools integrated with one another?
* Main deliverables will be packaged under a single project. All the stakeholders will have a single login page.

1. **Process Issue Risks**

JP will follow the RUP software development process. This provides the flexibility to accommodate changing software requirements of JP.

1. **Technical Issue Risks**

* Are specific conventions for code documentation defined and used?
* Software code will be freely available and the code documentation will be provided.
* Do you use a specific method for test case design?
* JUNIT will be used as the main testing tool that automates the testing process.
* Activity throughout the software process?
* Requirements Gathering, Planning and Analysis, Design, Development, Testing, Deployment, Maintenance and Support will be used throughout the software implementation process.

1. **Social/ Legal Feasibility**

JP can mitigate risks, build trust with customers, and establish a solid foundation for long-term success in the market. JSP software libraries that are used in this system are free open-source libraries. Since this system will greatly help the needs of eliminations and statistical distribution.