Software project management plan

Project Name：Cinema ticketing system based on Node.js

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## 1 Introduction

### 1.1 Overview

This project aims to develop a simple cinema ticketing system. With the continuous improvement of people's living standards, people's lifestyles are no longer limited to the improvement of ordinary clothing, food, housing, transportation and other material aspects, but also pursue a qualitative mutation in the spiritual aspect. As a result, people increasingly choose to watch a movie with three or two friends on weekends or holidays to enjoy free time and release stress. In response to this demand of the public, many movie ticket purchase mini programs were born.

the cinema management department, ticket booking is the most basic business in all business, on the surface, it is only a simple part of the cinema business, but it involves management and customer service and many other aspects. However, in the past, the traditional way of purchasing tickets in cinemas can no longer meet everyone's requirements, which requires a new way to purchase tickets - online tickets, to relieve the pressure of peak periods and provide users with convenient and fast ways to purchase tickets.

### 1.2 Project delivery products

1）Submit documents: project management plan, plan report PPT, test report.

2）Source program check: Check the operation of each module, check the operation of the entire system, and submit the program source file and executable system after the check is completed. Program checks are scheduled to take place during start-up time.

### 1.3 Evolution of software project plan

The software project plan is formed into a preliminary draft through three steps of group discussion, co-writing, summary and integration, which can be revised according to the progress of the project, and needs to be proposed by team members, discussed and approved at the meeting, and the team leader will sort out the modification opinions and make corresponding modifications. The rest of the group members get the update at the same time.

## 2 Project organization

The member organizations are shown in the table.

|  |  |  |
| --- | --- | --- |
| Members | Roles | Responsibilities |
| 王文静 | Front-end development engineer, Test engineer | Mainly responsible for product page and user experience design, product testing. |
| 潘佳琪 | Product manager, Back-end development engineer | Responsible for researching market demand, ensuring product functions and features, responsible for back-end development and database management. |
| 陈明辉 | Project Manager, Operation and maintenance Engineer | Responsible for the planning, organization, implementation and control of the project, as well as the deployment and maintenance of the product. |

## 3 Management process

### 3.1 Management goals and priorities

Basic management principle: Each team member is both an active advisor, a responsible collaborator, and a decision-maker. Decisions should be made jointly by all on the basis of full discussion and must be implemented in a timely and effective manner once they are made. No further objections are prohibited.

Goal 1: Complete the basic functions of the project on time and in quantity, and release products and documents on time, which is the highest goal of the team.

Goal 2: Follow the standardized project operation standards, rigorous and complete documentation, sufficient code comments, and facilitate subsequent maintenance, which is the second goal.

Goal 3: The product runs stably, the interface is friendly, the user is easy to operate, try to see the problem from the user's point of view, and propose a solution to the problem.

Goal 4: Pay attention to team building, reasonable division of labor, tacit cooperation among team members, and harmonious atmosphere. Weekly seminars are positive. Actively collaborate during development.

### 3.2 Risk management

There are the following risks in this development process:

1、Skilled development technology is not enough.

2、Lack of adequate art support.

3、Due to the tight schedule, the project could not be completed on time.

avoidance methods:

1、The team's lack of proficiency in development tools and techniques can have a disastrous impact on the entire project. Therefore, in order to minimize the risk, we decided to make a one-week study plan in advance, and systematically learn about the development tools and development environment.

2、Due to the lack of art technology, the interface is not friendly, so we will study UI design in depth and actively seek foreign help.

3、If an extension is necessary, the group leader should explain it to the teacher in time and apply for an extension.

### 3.3 Personnel plan

Project manager：陈明辉

Responsible for the planning, organization, implementation and control of the project, coordinate the work among the project team members, manage the progress and quality of the project, and ensure that the project is completed on time and according to quality.

Product Manager：潘佳琪

Responsible for investigating market demand, determining product functions and features, writing requirements documents and product plans, supervising the progress in the product development process, and ensuring that product development meets market demand and user needs.

Front-end development engineer：王文静

Responsible for the design of product interface and user experience, familiar with Node.js module design, including visual design and interaction design, etc., to ensure that the product interface and user experience meet user needs and design standards.

Back-end development engineer：潘佳琪

According to product requirements and design, responsible for software or hardware development, testing, deployment and maintenance, including back-end development, database management and other work.

Test Engineer：王文静

Responsible for testing products, finding and reporting defects and problems in products, ensuring the quality and reliability of products.

Operations Engineer：陈明辉

Responsible for product deployment, maintenance, monitoring and optimization to ensure stable operation and high availability of products.

### 3.4 Study plan

Node.js module：Learn how to use the Node.js module system, including how to import and export modules, and how to create your own modules.

Learning objects：王文静、潘佳琪、陈明辉

Asynchronous programming：To adopt the asynchronous programming model, it is necessary to master asynchronous programming technologies such as callback functions, event-driven programming, Promises, and async/await.

Learning objects：王文静、潘佳琪、陈明辉

HTTP services and routing: Learn how to create HTTP servers and routes using Node.js, and how to handle HTTP requests and responses.

Learning objects：王文静、潘佳琪、陈明辉

Databases: Learn how to use Node.js connect and learn SQL statements and how to manipulate databases such as MySQL.

Learning objects：王文静、潘佳琪、陈明辉

HTML+CSS: Learn the HTML+CSS markup language and basic syntax such as tags, elements, and attributes. Learn HTML structures and the Document Object Model (DOM).

Learning objects：王文静、潘佳琪、陈明辉

## 4 Technical process

### 4.1 Develop tools, methods and techniques

Team organizational structure: main programmer organizational structure;

Programming language: JavaScript;

Adopt unified JavaScript standard file naming methods, code layout, comments and other coding specifications;

Integrated development environment: WeChat developer tools;

Design methodology: object-oriented;

Database：MySQL；

Database management tools：SQLyog.

### 4.2 Documentation for software delivery

1）Software project management plan

This document is completed by the team leader and describes the entire management process of the project. This documentation is completed in the initial phase of the software design requirements analysis, and the subsequent stages are updated accordingly by the documentation maintainer.

2）Test documentation

During the software development phase, testers need to write test specification documents.

3）Instructions for use

Procedure instruction manual.

## 5 Development schedule

1、Preparation phase

Date：2023.03.10-2023.03.30

This stage includes: formulating the plan and task book, knowledge reserve, setting up the development environment, and collecting and processing data.

2、Development phase

Date：2023.03.31-2023.04.20

This stage is the most important stage, creating training and test data, building mini programs, predicting reactions, front-end and back-end design, code debugging, and finally being able to submit a demo.

3、Assessment phase

Date：2023.04.21-2023.05.11

This stage is the risk assessment, software testing and modification phase to ensure that the project can be perfectly realized.

4、Optimization phase

Date：2023.05.12-2023.06.01

Optimize projects, optimize artwork, and improve user experience.

5、Acceptance phase

The software is delivered, and the whole system can run successfully and stably.