

Gaming Cafe Software Proposal

Overview :

This proposal outlines the development of a gaming café management system designed to streamline operations, improve customer experience, and provide enhanced tracking for gaming sessions, billing, and inventory management. The system will help café managers and staff efficiently monitor resources, track customer activity, and automate routine tasks to ensure a smooth experience for all patrons.

Stakeholders :

1. Café Owner
2. Café Staff
3. Customers (Gamers)
4. System Administrators
5. Vendors and Suppliers

Problem Statement

Gaming cafés face challenges in managing their daily operations, including resource allocation, session tracking, billing, inventory management, and customer engagement. Current manual or fragmented systems can lead to inefficiencies, errors, and a subpar customer experience. There is a need for an integrated software solution to streamline these processes, ensure seamless operations, and provide robust analytics and reporting capabilities.

Objectives

1. **Streamline Operations:** Develop a centralized system for managing gaming sessions, billing, and inventory to reduce manual effort and errors.
2. **Enhance Customer Experience:** Provide intuitive features like easy session management, game reservations, and membership plans to attract and retain customers.
3. **Improve Resource Utilization:** Optimize allocation of PCs, gaming peripherals, and inventory to maximize café efficiency.
4. **Automate Routine Tasks:** Automate billing, inventory updates, and report generation to save time for staff and management.
5. **Ensure Security and Reliability:** Implement robust security measures for user data and ensure system reliability during peak usage.
6. **Support Scalability:** Build a system capable of growing with the café's expanding operations and customer base.

Domain Analysis

The Gaming Café Management System falls under the domain of hospitality and recreational technology, tailored specifically for gaming cafés and entertainment centers. It integrates software engineering principles with the operational needs of gaming cafés, focusing on resource management, customer experience, and inventory tracking to ensure seamless operations and scalability.

Functional Requirements:

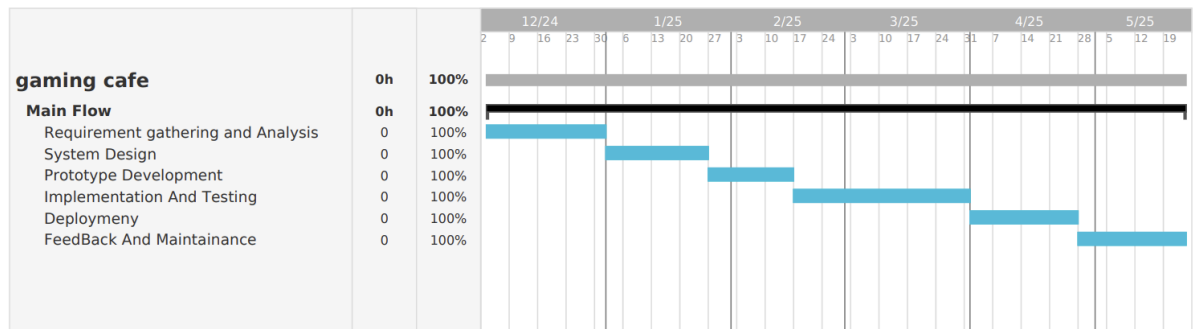
- **User Authentication:**
Users must log in to access their accounts and roles (Admin, Staff, Customer).
- **Session Management:**
Admins and staff should be able to start, pause, and stop gaming sessions for customers.
- **Billing System:**
Automatically calculate session costs and generate invoices.
- **Game Library Management:**
Show the list of games available and allow users to reserve specific games.
- **Resource Allocation:**
Allocate PCs and gaming peripherals (headsets, keyboards) to users.
- **Membership Plans:**
Provide users with hourly, daily, or monthly subscription options.
- **Progress Tracking:**
Track and display user session history, membership details, and payments.
- **Feedback and Reports:**
Generate reports on café usage, revenue, and inventory for admins.

Non-Functional Requirements:

1. Performance & Scalability
2. Security & Data Protection
3. Availability & Reliability
4. Usability & Accessibility

Gantt Chart :


Created with Free Edition



ProtoType

[Link](#)

USE CASES

Actors:

1. Café Owner
2. Café Staff
3. Customers (Gamers)
4. System Administrators

5. Vendors and Suppliers

Use Cases:

1. Session Management

- Actors: Customers, Café Staff
- Description: Customers log in, start gaming sessions, and the system tracks session duration.

2. Billing and Payment Processing

- Actors: Customers, Café Staff
- Description: System calculates session costs and processes payment

3. Inventory Management

- Actors: Café Staff, Vendors and Suppliers
- Description: Tracks inventory levels, generates purchase orders, and alerts for low stock.

4. Membership and Loyalty Program Management

- Actors: Customers, Café Staff
- Description: Manages membership plans, loyalty points, and rewards.

5. Game and PC Reservation

- Actors: Customers, Café Staff
- Description: Allows customers to reserve PCs or games in advance.

6. Reporting and Analytics

- Actors: Café Owner, System Administrators
- Description: Generates reports on revenue, customer activity, and inventory usage.

7. System Maintenance and Security

- Actors: System Administrators
- Description: Ensures system reliability, security, and regular updates.

Relationships:

Café Owner interacts with:

- Reporting and Analytics

Café Staff interacts with:

- Session Management
- Billing and Payment Processing

- Inventory Management
- Membership and Loyalty Program Management
- Game and PC Reservation

Customers interact with:

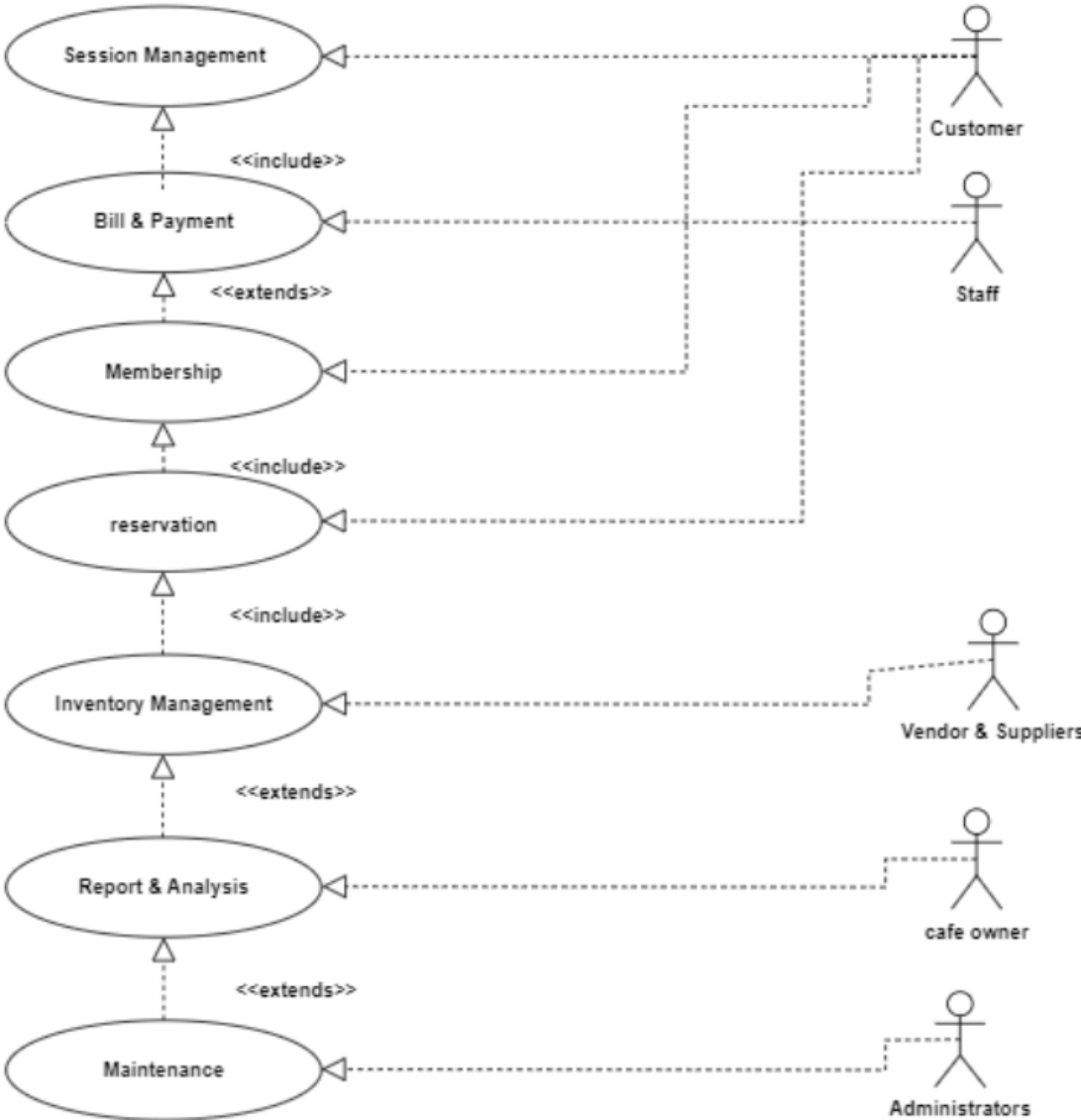
- Session Management
- Billing and Payment Processing
- Membership and Loyalty Program Management
- Game and PC Reservation

System Administrators interact with:

- System Maintenance and Security
- Reporting and Analytics

USE CASE DIAGRAM

Gaming Cafe Management System



Architecture Diagram

