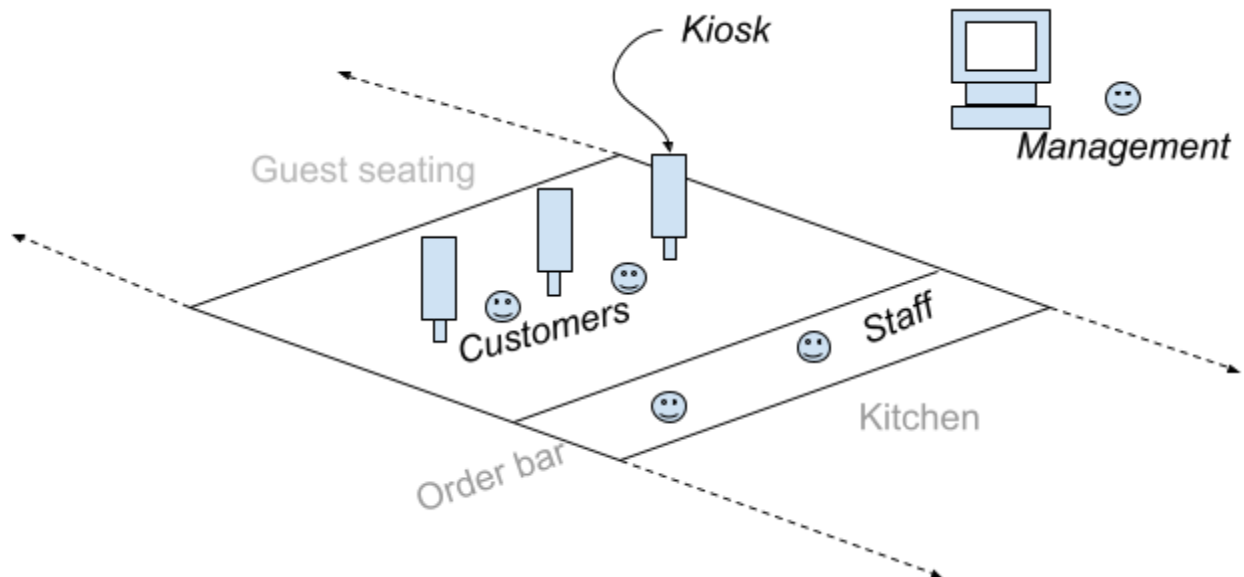# Workshop 3 - Requirements, Specifications, and Design - SOLUTION

Sketch

Actors:
- Users/Customers
- Users/Staff
- Users/Management Staff
- Software System

Software Subcomponents

- Kiosk ordering
- Payment
- Kitchen
- Management

Requirements

1. Kiosk
1.1. Display
1.1.1. The kiosk display system shall display all orderable menu items on the kiosk screen

1.1.2. The customer shall be able to select any number of orderable menu items

1.2. Ordering
1.2.1. The system shall collate selected orderable menu items into a single ORDER (see definitions).

1.2.2. The system shall assign a unique (per day) order number to each order when payment is successfully completed (see section 2. Payment)

2. Payment
2.1. The system shall accept digital payments

2.2. The system shall validate payment

3. Kitchen
3.1. Display
3.1.1. The system shall display all unfulfilled orders that have been successfully paid for on the kitchen displays within 30sec of payment completion

3.1.2. The system shall display all unfulfilled orders that have been successfully paid for on the kitchen displays in the order their associated payments were validated

3.1.3. The system shall remove fulfilled orders from the display within 30sec of state change

3.2. Order fulfillment

4. Management system

5. Users
5.1. Management
5.1.1. Management Staff shall be able to add new menu items

5.1.2. Management Staff shall be able to remove menu items

5.1.3. Management Staff shall be able to mark menu items as un-orderable

5.2. Customers
5.2.1. The customer shall be able to make a digital payment

5.3. Kitchen staff
5.3.1. The staff shall be able to mark orders as fulfilled

Specifications

1. ## Kiosk
   1.1. ### Display
       1.1.1. The kiosk display system shall display all orderable menu items on the kiosk screen with a title, picture, description and price.
       1.1.2. The customer shall be able to select up to 99 items orderable menu items by tapping on their associated picture.
   1.2. ### Ordering
       1.2.1. The system shall total the price of all selected orderable menu items in the ORDER and store the total
       1.2.2. Order numbers will be integer values that begin at 1 each day and increment up for each order.

2. ## Payment
   2.1. The system shall accept digital payments through Visa, MasterCard, AmericanExpress, Google Pay, and Apple Pay.
   2.2. The system shall validate payment through HTTPS to encrypt payment transactions, ensuring the security of customer payment data.

3. ## Kitchen
   3.1. ### Display
       3.1.1. The system shall display all unfulfilled orders that have been successfully paid for on the kitchen displays within 30sec of payment completion by listening for regularly scheduled UDP messages from the ordering kiosk.
       3.1.2. The system shall display all unfulfilled orders that have been successfully paid for on the kitchen displays in the order their associated payments were validated by placing the newest orders at the top and moving all existing orders down.
       3.1.3. The system shall remove fulfilled orders from the display within 30sec of state change through regularly scheduled completion checks.
   3.2. ### Order fulfillment

4. ## Management System

5. ## Users
   5.1. ### Management
       5.1.1. Management Staff shall be able to add new menu items by entering a title, description, and price into the management system (see section 4).
       5.1.2. Management Staff shall be able to remove menu items by selecting a delete button in the management system (see section 4).
       5.1.3. Management Staff shall be able to mark menu items as un-orderable by selecting a hide button in the management system (see section 4).

5.2. Customers

5.2.1.   The customer shall be able to make a digital payment by using their payment device with a sensor in the kiosk.

5.3. Kitchen staff

5.3.1.   The staff shall be able to mark orders as fulfilled by tapping a button in the order displayed on the kitchen display screen.

UML Diagram