# Catering Industry

## Stakeholders

| ACTOR | What they can do on the software created |
|---|---|
| Employee/Customer | ● They can select the lunch dishes and create an order.<br>● They can edit the items they want to order anytime before checking out. |
| Canteen Manager | ● The canteen manager is able to view the orders placed by the employees.<br>● He shall take an inventory of all the dishes ordered by different users and get them cooked by the chef.<br>● The canteen manager is able to request a delivery to the employees' workstation. |
| Delivery Boy | ● Meal deliverer (delivery boy) who will deliver the lunch to the employee's desk.<br>● After delivering the lunch, the delivery boy will close the online customer order. |
| Payroll system | ● There should be no payment gateway so the payment for dishes ordered will be deducted from employee's salary.<br>● The employees need to enroll for salary payment deduction. The payroll system will handle payroll deductions.<br>1. **Actions -** At the end of the month the payroll system will calculate the total number of dishes ordered by each employee. The payroll system, then deduct money from the employee's salary. |
| Management | ● They must do the following things:-<br>● Which dishes are the most popular?<br>● How many employees are using the system?<br>● Satisfaction of the employees on using the system. This should be tracked on the basis of feedback submitted by the employees.<br>● Sales for each day<br>● Total monthly earnings<br>● Order forecasting i.e. a prediction of which items will be ordered and when they will be ordered |

## Problem Definition and Solution

● **The Canteen** - Huge rush in canteen during lunch hours

- The canteen wastes a significant quantity of food by throwing away what is not purchased.
- **The Customer-** Employees/customers waste a lot of time waiting for tables to be vacant.
- Employees/Customer don't always get their choice of food they want because the canteen runs out of certain items.

## Advantages and Objectives

Advantages of the Canteen Ordering System:

**The advantages for canteen-** The food wastage will be reduced.

- This will reduce the cost

**The advantages for the employees-**

- A system would save considerable time to those employees who use the service.
- It would increase the chance of them getting the food items they prefer.
- This would improve both their quality of work life and their productivity.

## Objectives:

- Lesser Manpower
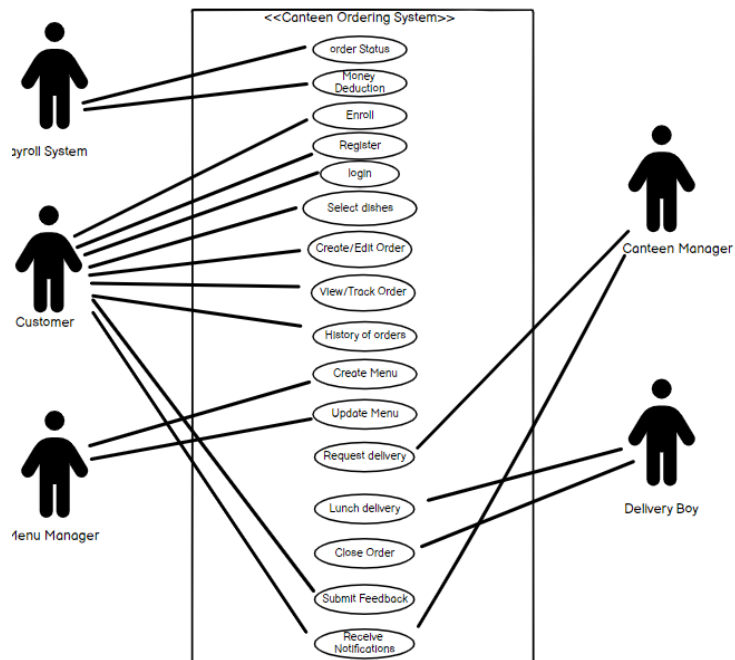- Reduce Cost
- Reduce food wastage

## Existing System

- Huge rush in the canteen during lunch hours resulting in employees wasting a lot of time waiting for tables to be vacant.
- Almost 30-35 minutes wasted in waiting in a queue to collect their food and get a table to sit and eat.
- Employees don't always get their choice of food they want because the canteen runs out of certain items. The canteen wastes a significant quantity of food by throwing away what is not purchased.
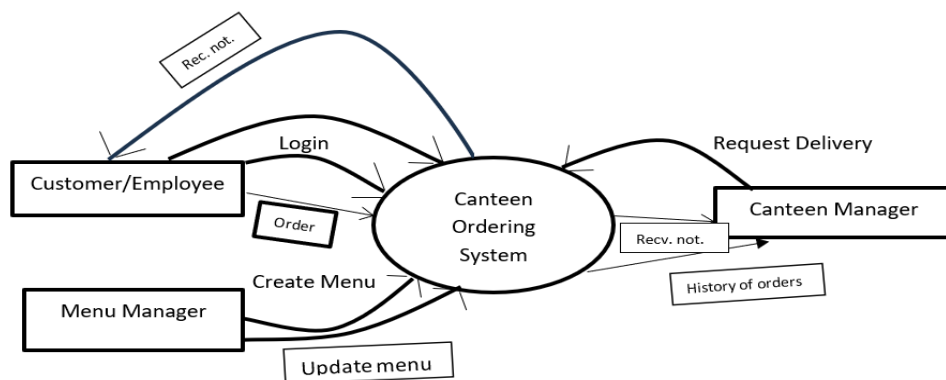
## Proposed System

- User friendly interface
- Make it convenient for the people who have limited time
- Cost reduction and computerized order

## Scope using *use case diagram* (UML)



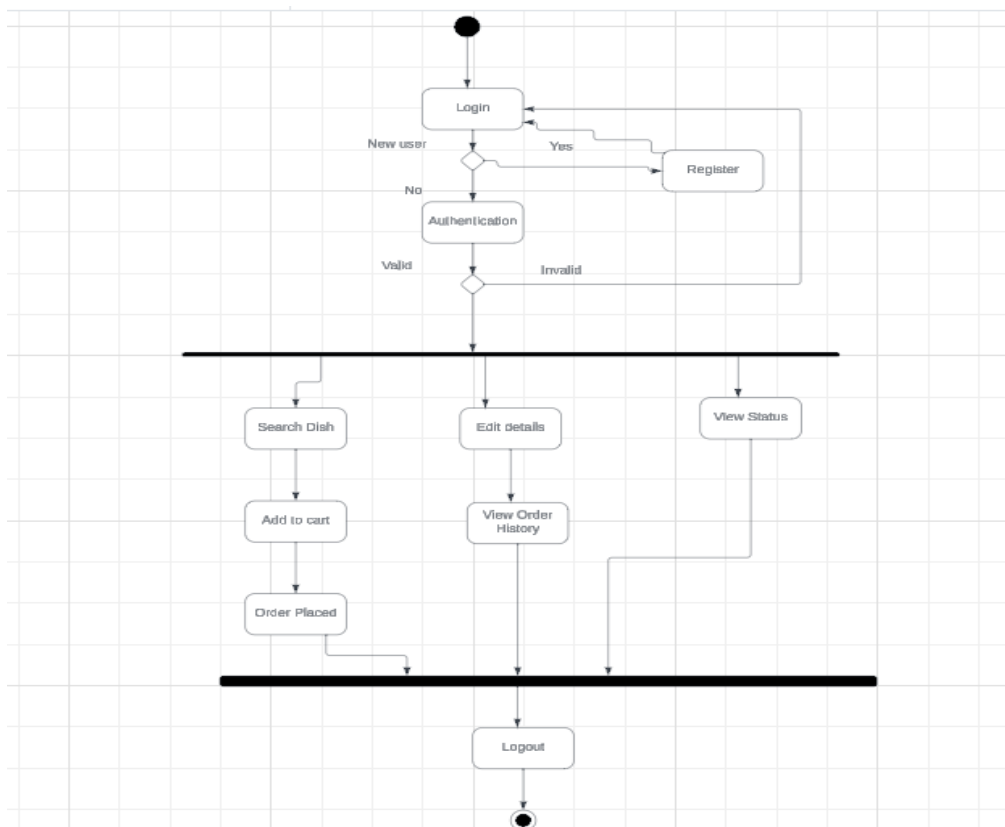## Scope using *context diagram*



## In Scope

- **Mention the name of features and what they are used for.**

- **Online Ordering system –** Employee can order through website until 11 am and the menu manager will create and update the menu and employees can select, edit and update the order,

- **Order Processing** - Canteen manager processes orders and coordinates with chefs.

- Meal deliverer delivers orders to employees' workstations.

- Online order closure by the delivery boy.

- **Submit Feedback** - can submit feedback on food items and the delivery process.

- **Payment deduction** - Employees can enroll for salary payment deduction.

- Payroll system handles deductions based on the total number of dishes ordered.

- **Reports-** Management reports on popular dishes, system usage, employee satisfaction, daily sales, monthly earnings, and order forecasting.
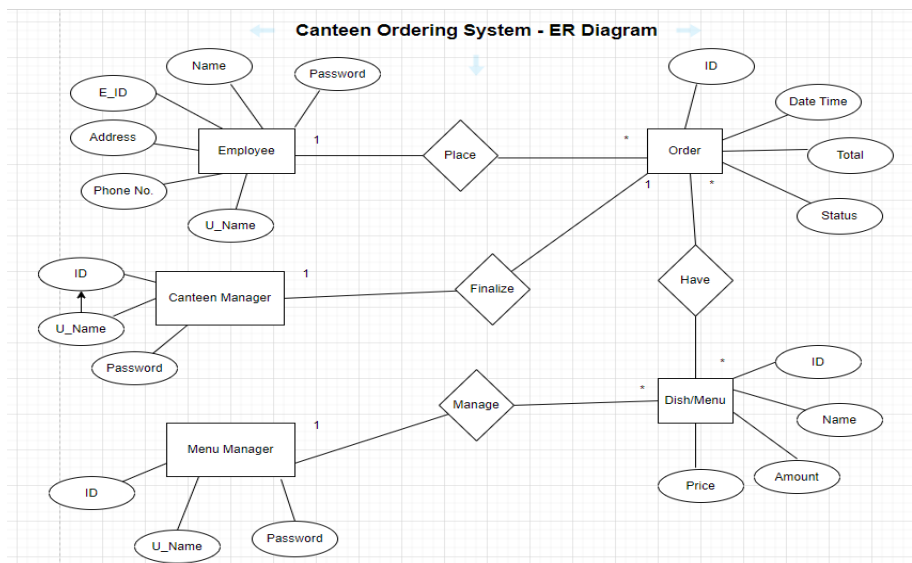
## Out of Scope

- **What are the facilities or features—for both patron and the canteen—the are out of scope or cannot be implemented now.**

- **Payment gateway:** No integration with a payment gateway; payment deducted directly from the employee's salary.

- This system is only available for lunch time not for other meal periods.

## Activity Diagram for the System:

## ER Diagram for the System:



Canteen Ordering System - ER Diagram

## Preconditions:

- User Enrollment
- Menu Setup
- Payment Deduction Authorization
- Delivery Boy Availability
- Payroll System Integration

## Triggers:
- Order Placement
- Order Confirmation
- Menu Update
- Feedback Submission
- End-of-Month Trigger
- Error Handling
- Report Generation

## Business Requirements:

**Business objective – 1:** Reduce canteen food wastage by a minimum of 30% within 6 months following first release.

Scale: Value of food thrown away each month by examining the canteen inventory

- Previous - 25% wasted
- Must plan for: Less than 15%

**Business objective – 2:** Reduce canteen operating costs by 15% within 12 months, following initial release.

**Business objective - 3:** Increase average effective work time by 30 minutes per employee per day, within 3 months.

**Business objective - 4:** By making the ordering process automated and by delivering the food to the user's workstation, the canteen will be able to operate with lesser manpower.

# Functional Requirements

1. **User Authentication and Authorization:**

   - Secure login with role-based access (Employee, Menu Manager, canteen manager, delivery boy).

2. **Menu Management:**

   - Add, update, and remove dishes by Menu Manager.

   - Display up-to-date menu to users.

3. **Order Placement:**

   - Employees can place lunch orders until 11 am.

   - Select dishes, add to order, and edit before checkout.

4. **Order Confirmation:**

   - Confirmation locks the order, no cancellations or edits after checkout.

5. **Order Processing:**

   - Canteen manager views and processes orders.

   - Coordination with chefs for meal preparation.

   - Delivery by the meal deliverer.

6. **Feedback System:**

   - Employees submit feedback on food items and delivery.

   - Canteen manager reviews feedback.

7. **Payment Deduction:**

   - Employees enroll for salary payment deduction.

   - Payroll deducts total cost from salary monthly.

8. **Reporting:**

   - Generate management reports on popular dishes, system usage, satisfaction, sales, earnings, and order forecasting.

9. **Receive Notification:**
   - Employees receive order placement and delivery notifications.

# Nonfunctional Requirements

## System Requirement:

## Scalability and performance:

- This canteen ordering system is required to support a volume of 1500 employees ordering. The web pages should be light and render fast.

## Usability:

- The screens should be self-explanatory and very user friendly. Management would not want employees not ordering from the system as they cannot understand the screens and data fields on screen.

- Whenever a user hover over on any feature text should pop up.

- Video should be available so that it will be easier to use.

- Images should be there as well.

## Environments:

- Create and maintain the program in Java because it will not change much over time
- And if we make it well, there will be very little maintenance to be done on the code.