CANTEEN ORDERING SYSTEM FOR

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INTRODUCTION

Unilever is a British-Dutch MNC FMCG company, headquartered in London, England. Unilever is one of the oldest FMCG companies, and its products are available in around 190 countries.

Overview

In its UK offices, Unilever had around 1500 employees which were spread across 12 floors. They had 2 canteens to cater to these 1500 employees. Each canteen could seat around 150 employees at a time.

Most employees would prefer to take their lunch between 12 noon to 1 pm. This led to a huge rush in the canteen during lunch hours resulting in employees wasting a lot of time waiting for tables to be vacant.

Management calculated that it took around 60 minutes for employees to go and come back from lunch. Almost 30-35 minutes were wasted in waiting in a queue to collect their food and get a table to sit and eat. However, the time spent eating was barely 10-15 minutes. The remaining 10 minutes were spent reaching and coming back from the canteen using the elevators.

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.

Many employees have requested a system that would permit a canteen user to order meals online, to be delivered to their work location at a specified time and date.

Business analysis core concept model (BACCM)

NEED-

- Employees are experiencing 50% waiting time at the food queue and getting the table in order to eat their meal.
- Some employees are unable to get their choice of food due to certain items being out of stock by the time the employee gets through the queue.
- Large scale of leftover food gets wasted which is not purchased.
- By changing the process, it would positively impact the work life and productivity of employees.
- Also the change in process would lead to reduction in food wastage.

CHANGE- Implementation of food ordering system would lead to increase in efficiency by

- By improving work life and productivity.
- Reduction in waiting time.
- Reduction of food wastage.
- Reduction in canteen running operations.

SOLUTION-

- An ordering system would be developed which would be available to all the employees. The platform would be light and user friendly.
- Employees will easily be able to use the system to view a current menu, order, and provide feedback.
- The canteen will be able to manage and track orders and amount for the meal be deducted from company's payroll system.

CONTEXT-

- The company has around 1500 employees that are catered to by 2 canteens within their office. Each canteen can accommodate around 150 employees at a time. Most employees take their lunch at the same time which results in rush at the canteen which ultimately leads to wastage of time in the waiting queue.

VALUE-

- Ordering system would reduce the waiting time hence improvement in work life and productivity.
- Chances of getting of employees choice increases with the ordering system.
- Reduction in running cost of canteen
- Reduction in food wastage.

STAKEHOLDER-

- INTERNAL STAKEHOLDER
    - Domain SME
        - Canteen manager

        - Software developer
        - Accounts and finance (Payroll) manager
    - Project Manager
    - Operational Support
        - IT support
- EXTERNAL STAKEHOLDER
    - End User
        - Employees
    - Supplier
        - Grocery Vendors
    - Customer
        - Employees
        - Canteen manager
        - Delivery partner
        - Chef and other catering staff
        - Payroll team
    - Sponsor
        - Management
- BUSINESS ANALYST

IDENTIFICATION OF STAKEHOLDER

ACTORS	*WHAT CAN THEY DO ON THE SOFTWARE CREATED*
Employees	• Employee shall open the webpage and login with their credentials and check the dishes available along with their prices • The order can be placed by 11am. • They can select dishes as per choices and hence create an order. The order can be changed before checking out. • They can submit their feedback regarding services. • They have to enrol for pay deduction for the canteen services through their salary.

Canteen Manager	• Shall create and update the menu. • View the order placed by the employees. • Get the food ready by chef before the lunch time. • Assign the delivery partner in order to get the lunch delivered at the workstation. • View the feedback.
Chef and other catering staff	• Get the food cooked properly while maintaining the hygiene. • View the feedback.
Delivery Partner	• Can view the employee's desk details for delivery. • Delivery partner should close the order once the order is delivered.
Grocery vendor	• Ensure adequate supply of groceries required for cooking the lunch.
Accounts and finance(Payroll)	• The payroll system shall calculate the number and price of dishes ordered. • The payroll system shall control payment deduction.
Business Analyst	• Must identify the need and recommend solution along with continuous improvement.
Management	• Get the detailed report for analysis and earning calculations.

RACI MODEL

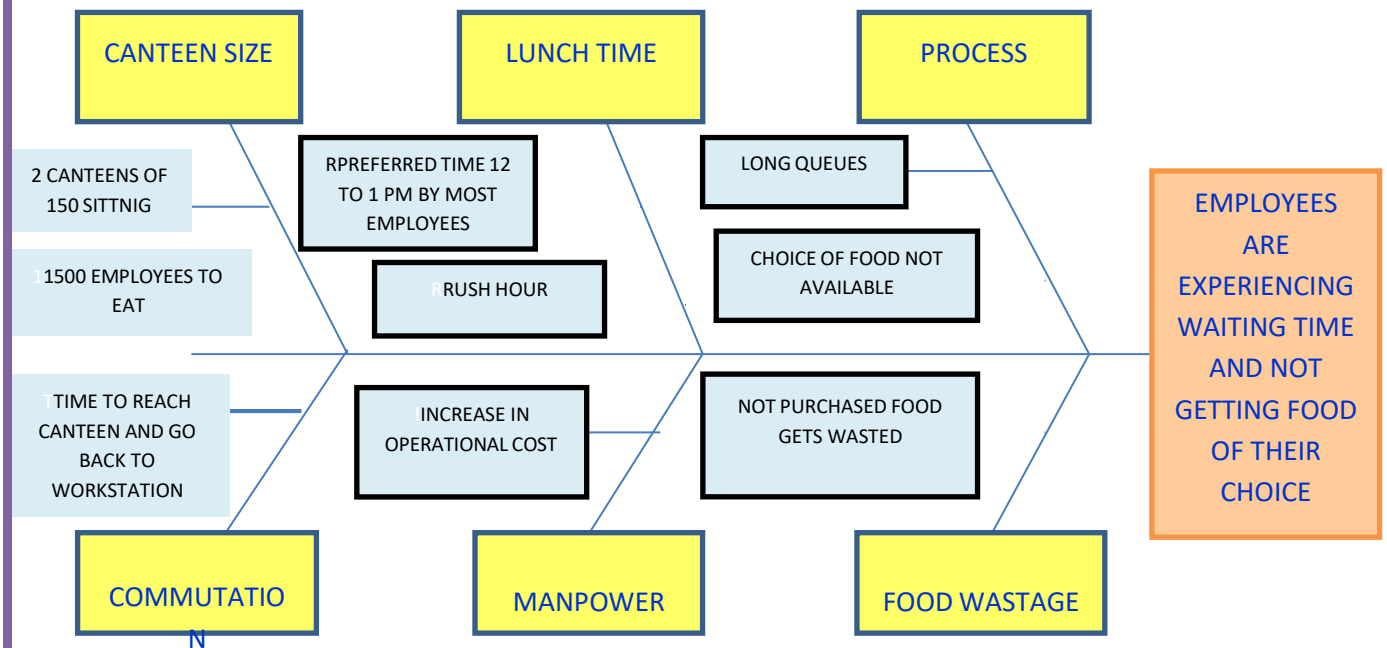
STAKEHOLDER	RESPONSIBLE	ACCOUNTABLE	CONSULTED	INFORMED
BUSINESS ANALYST	R			
PROJECT MANAGER		A		
CANTEEN MANAGER			C	
ACCOUNTS AND FINANCE(PAYROLL) MANAGER			C	

SOFTWARE DEVELOPER	R			
IT SUPPORT			C	
EMPLOYEES				I
CHEF AND OTHER CATERING STAFF				I
DELIVERY PARTNER				I
GROCERY VENDOR				I
MANAGEMENT			C	

PROBLEM DEFINITION

- Long queues due to 1500 employees taking their lunch at the same time could contribute to prolonged lunch hours.
- Employees working across 12 floors with only two canteens to access and have to commute from their workstation to the canteen results in prolonged lunch hours.
- Large numbers of employee who take lunch at the same time have to order their food at the food counter leads to problem of not getting food items as per their choice.

FISH BONE DIAGRAM



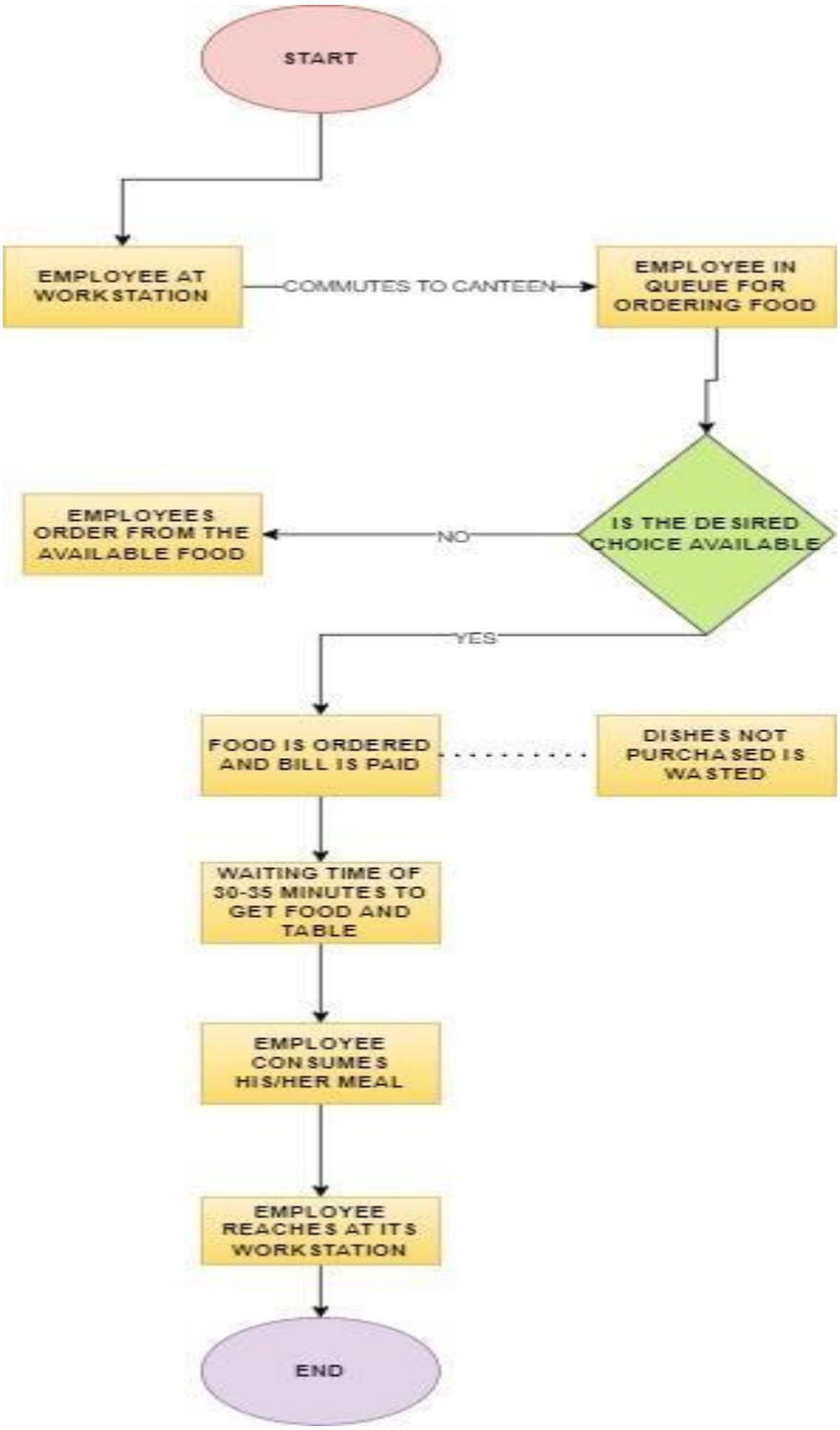
OBJECTIVES OF NEW CANTEEN ORDERING SYSTEM

- 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%

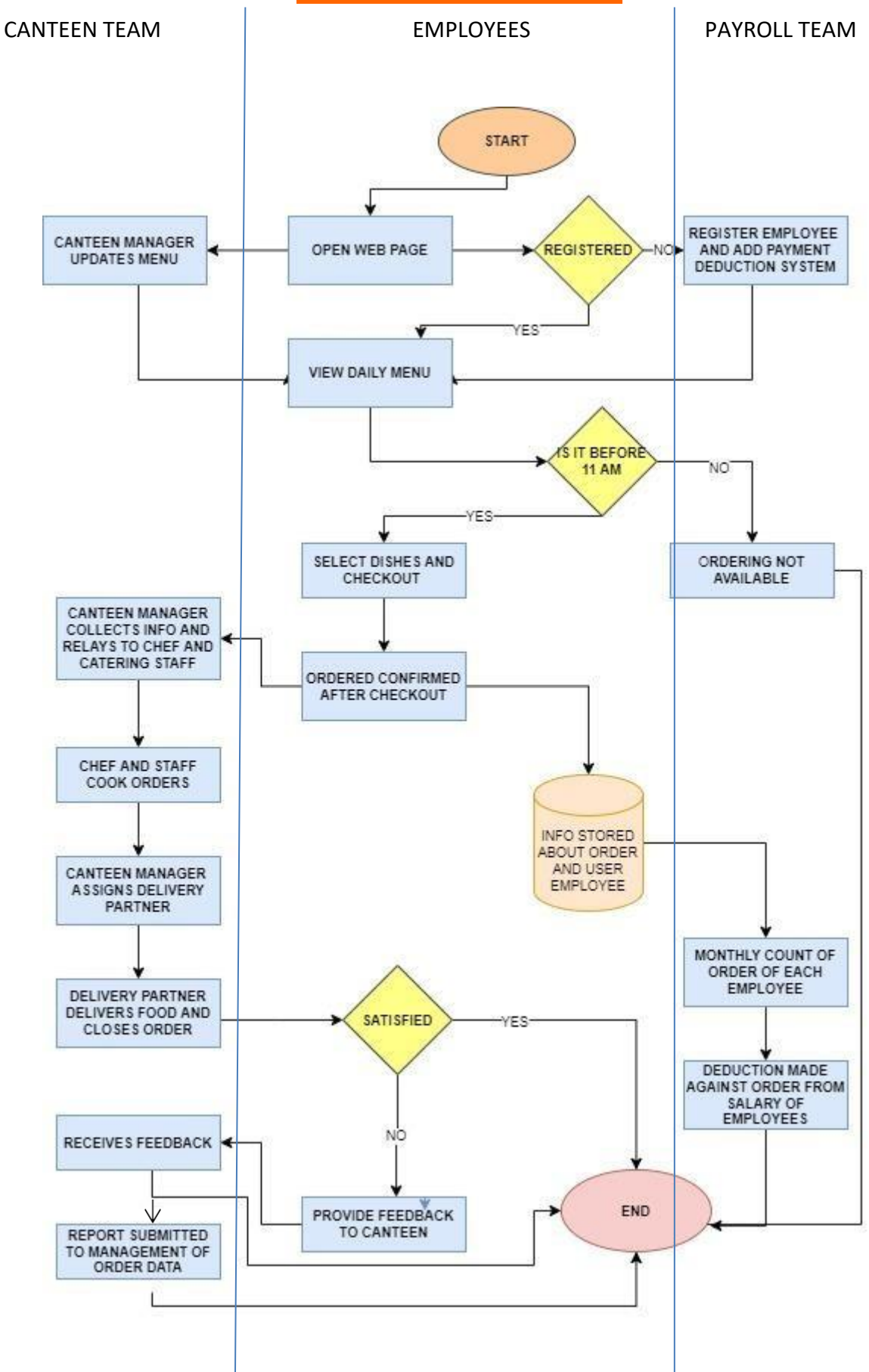
- Reduce canteen operating costs by 15% within 12 months, following initial release.
- Increase average effective work time by 30 minutes per employee per day, within 3 months.
- Make the ordering process automated and deliver the food to the user's workstation, with this the canteen will be able to operate with lesser manpower.

PROCESS MAPPING

EXISTING SYSTEM

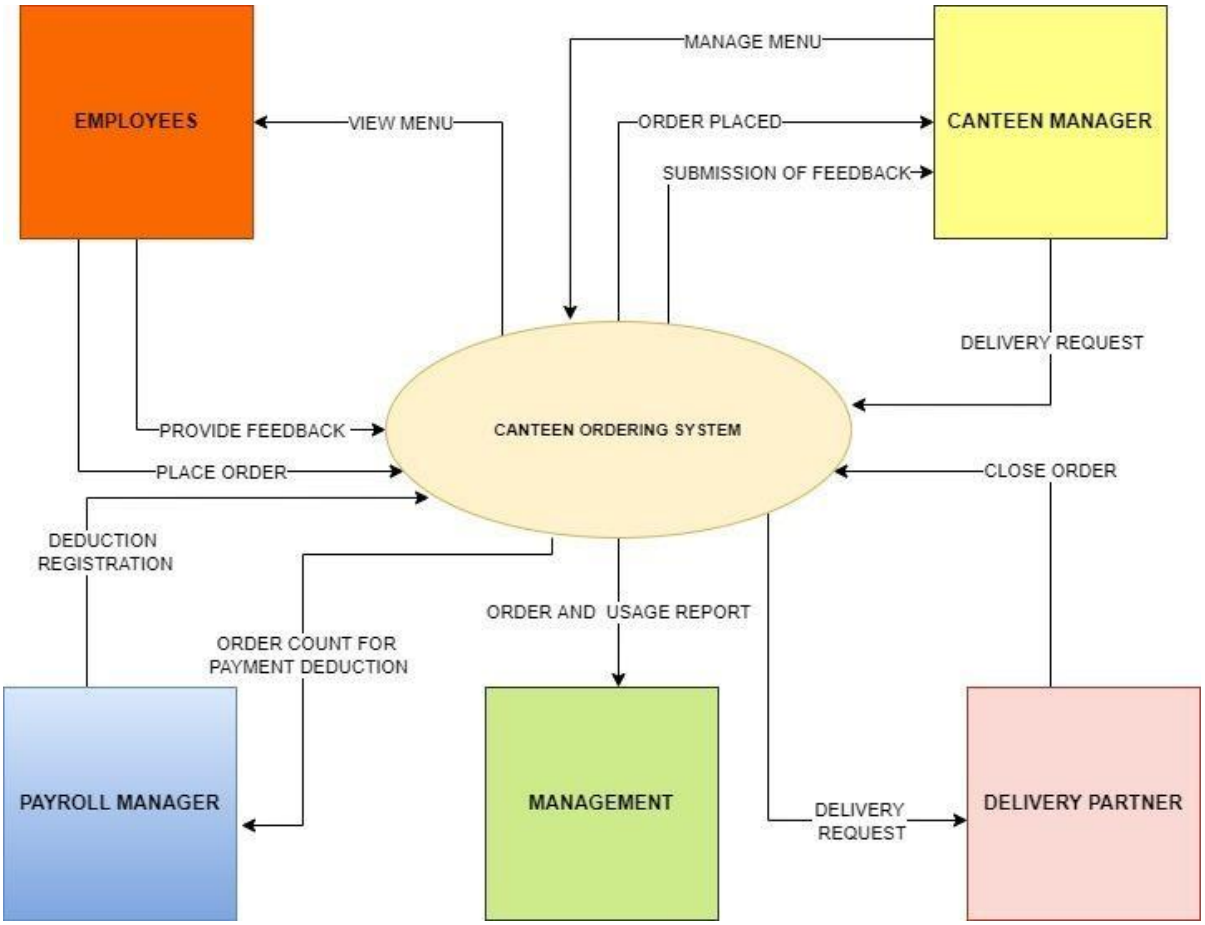


PROPOSED SYSTEM



SCOPE OF CANTEEN ORDERING SYSTEM

CONTEXT DIAGRAM



MAINS FEATURES TO BE DEVELOPED

- Web application needs to be developed.
- Employee registration and login should be present.
- Canteen manager updates the daily menu.
- After successful login. Employee must be able to select dishes from the daily menu,
- The order cannot be placed after 11 am,
- After employee selects the dishes from menu, he/she can check out and confirm.
- Order can be edited before checking out, after checking out no changes can be made.
- Canteen manager can view all the orders and coordinate with the chef and catering staff for the preparation of meal.
- Once order is packed canteen manager assigns the delivery partner to deliver the lunch at employee work station.
- Delivery partner closes the order once the order is delivered,
- Employee would be asked for feedback for meal and delivery services.
- The amount against the meals would be deducted from employee's monthly salary by the accounts and finance (Payroll) team hence there would be no payment gateway.
- The details of orders should be available with the payroll team so that right amount can be deducted from the employee salary.
- Order and usage report should be available to management for analysis.

SCOPE ITEMS FOR THE SOFTWARE

IN-SCOPE

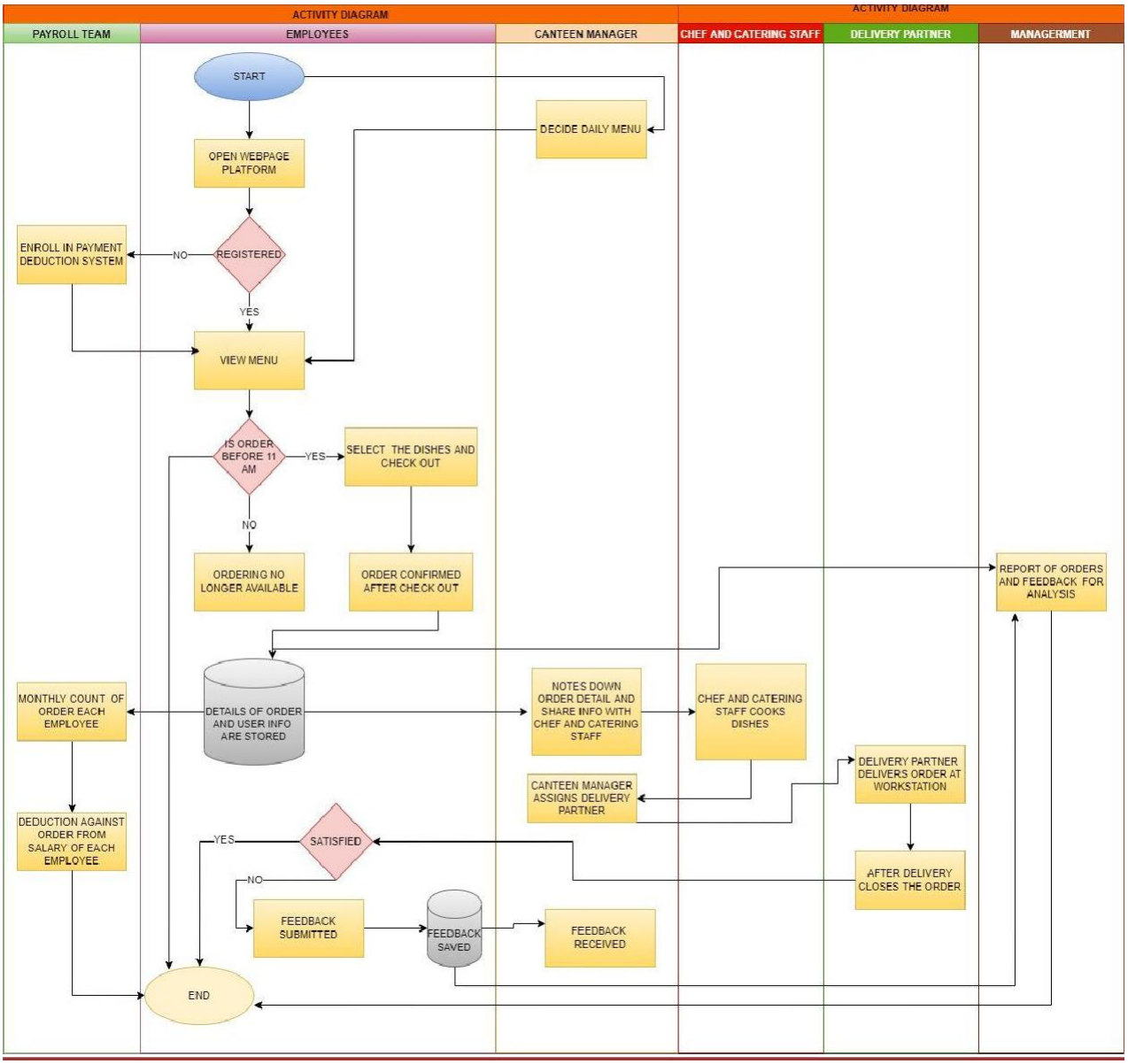
- Employee will be able to access the canteen ordering system via webpage.
- Employee will fill his credentials (User ID, Password) to access his account .New user will be able to create their account by registering on the webpage.
- After accessing the account meal can be selected from the available menu by 11 am.
- Once the choice is selected employee can check out.
- Payment detailed will be confirmed by employee and details will be shared with the payroll team for deduction from their salary .Once the order is confirmed no changes can be made.

- Canteen manager can the order details and shares with the chef and other catering staff.
- Once the order is ready delivery partner is assigned.
- The status of order is closed once it is delivered at the work station
- Employees need to submit the feedback for lunch and delivery services and it is available with the canteen manager.

OUT OF SCOPE

- System doesn't integrate the grocery supplies vendors and doesn't track supplies from their side
- Once the order is confirmed it cannot be edited or change.
- The online ordering system is available to current employee .The system is not available to ex –employee and cannot track order outside of company.
- Payment against order cannot be made in the form of cash or credit card or debit card.
- No live tracking is available to the employees.

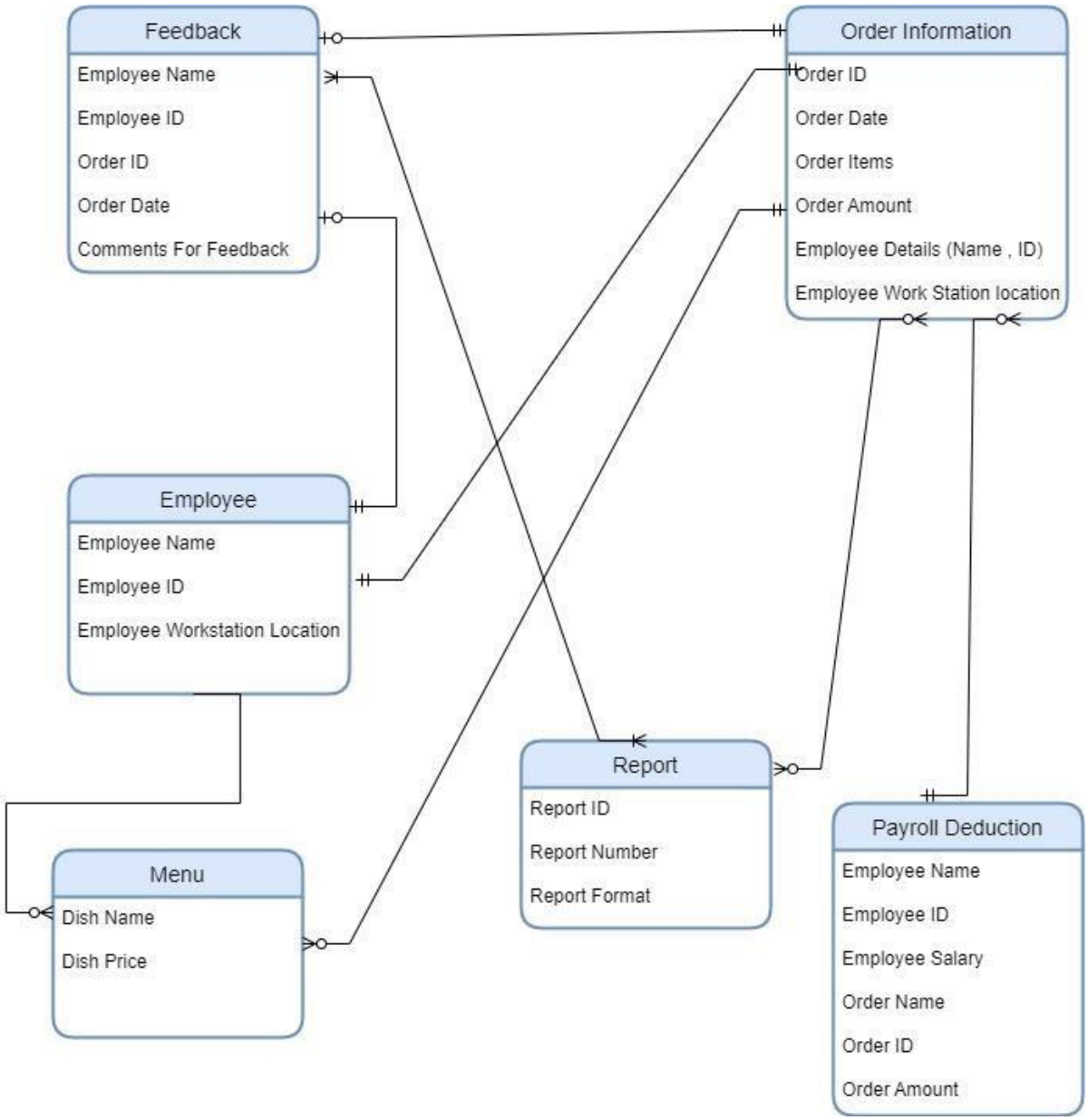
ACTIVITY DIAGRAM



ER DIAGRAM

Entity relationship diagram (Entity relation diagram) describes the relationship of entities that need to be stored in a database.

It is basically a structural design for database. It is a framework constructed using specialized symbols to define relationship between entities.



BUSINESS REQUIREMENT

FUNCTIONAL REQUIREMENT

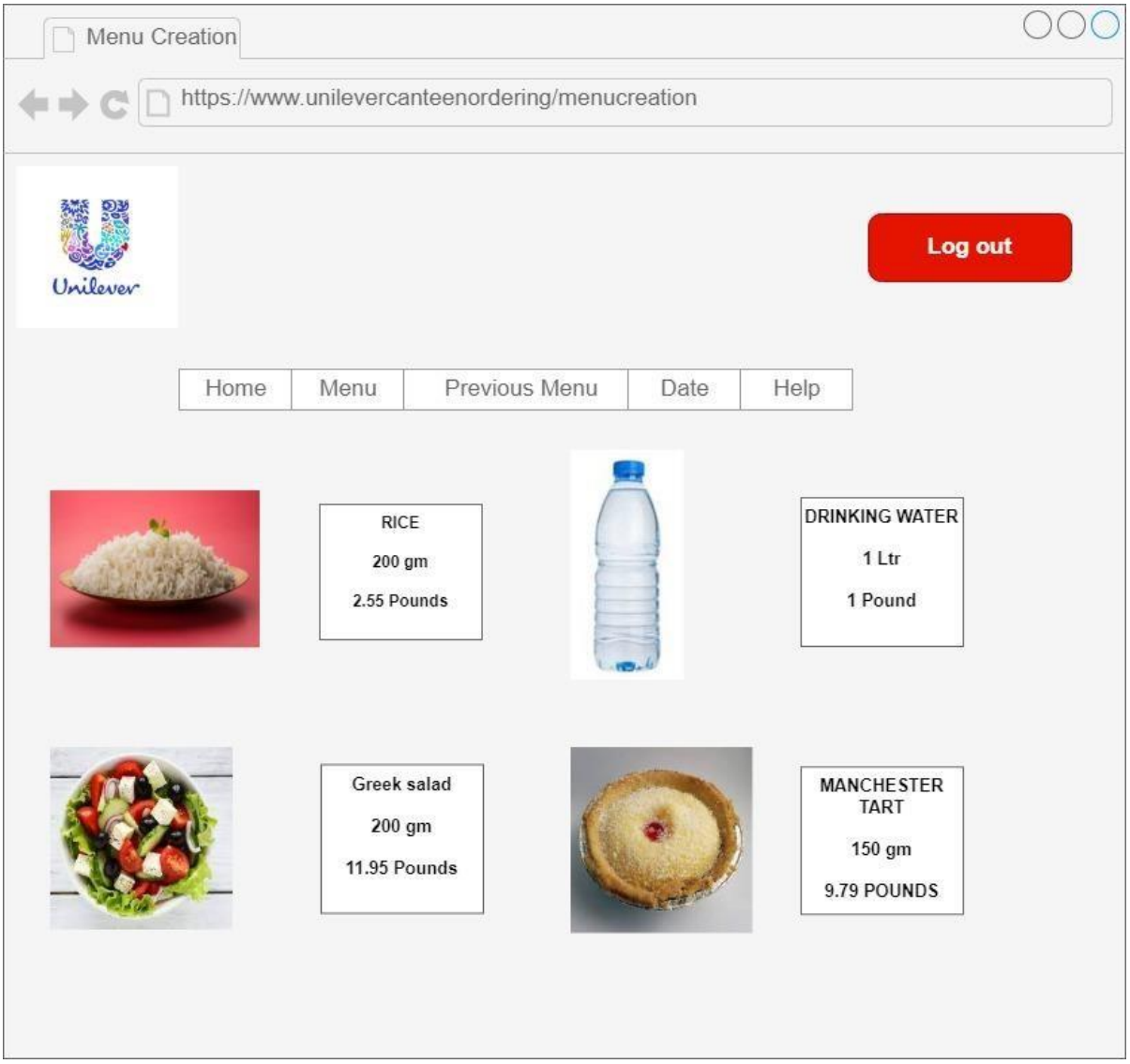
- A online webpage is to be developed to automate the food ordering system.
- The canteen manager decides the daily menu and updates it.
- The dishes for the lunch can be selected by 11am .After 11am no order is allowed so as to provide enough time to chef and catering staff to prepare the meal.
- The employee can edit the order before confirmation. After confirmation no change in order is allowed.
- The canteen manager collects the order details and gets the food with the help of chef and other catering staff.
- Once the food is ready, the canteen manager assigns delivery partner for delivery of food.
- The delivery partner closes the order once it is delivered at the workstation.
- After the meal is consumed, feedback would be available to employee.
- The payment against the order shall be deducted from the employee's salary at the end of month after determining about the orders done within the time period. There would be no payment gateway.
- Data of the order should be available for to the management for further delivery.

NON FUNCTIONAL REQUIREMENT

- ENVIRONMENT- The programming for the canteen ordering system must be in JAVA.
- SCALABILITY-The system must be capable of supporting 1500 employees at a time.
- PERFORMANCE & EFFICIENCY- The webpages should be light and should render fast.
- USABILITY-The system must be self-explanatory and user friendly.
- AVAILABILITY-The system should be available to all the employees at the time.
- COMPATIBILITY-Data from the ordering system must be compatible with

WIREFRAMES

MENU CREATION



EMPLOYEE ORDERING