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| DOCUMENTATION [part-3] |

**System design**

SYSTEM FLOW:

Customer enters the restaurant premises.

**TAKE - AWAY ?**

If the customer wants to take away the food, he/she goes to the separate counter allotted for take away.

* The take-away staff gives customer menu card and takes order on to the PDA.
* Sends order details to chefs in the kitchen.
* The order is seen by the chefs in the kitchen who can right away start preparing the dish.
* After the chefs finish cooking the order, the take-away staff is notified.
* The take-away staff checks notifications from the chefs.
* Delivers ordered food package to the customer.
* Bills the customer and asks him to rate the restaurant service on PDA. The order is archived.
* Take-away staff sends the bill and rating details of customer to the manager.

If the customer doesn’t want to take away food, the next question is if he wants to avail the valet parking facility.

* YES-Customer gives the keys to the security guard to park the vehicle.
* NO- Customer doesn’t gives the keys to the security guard to park the vehicle.

🡪The host opens the door and greets the customer and gives menu card.

🡪 If the customer has kids (4-7yrs of age), host allows them into kids play zone.

🡪The host logins on PDA to check empty tables and then directs the customer to the table.

🡪If the customer has kids (0-3yrs of age), host provides them with special baby chair at their table

🡪Host notifies the waiter assigned to that particular table.

🡪The waiter places new plate, cutlery , water bottle on the table.

🡪 The waiter checks the time (11AM-3PM) if the customer can avail the buffet offer .There are two cases here

**CASE A:** If the buffet offer is there,

-Customer completes eating in buffet and orders bill.

-Waiter bills the customer and asks him to rate the restaurant service on PDA. The order is archived.

-Customer pays a fixed amount of bill (7.99$) and rates the restaurant service.

**CASE B:** If the buffet offer is not there,

-Waiter takes order onto a PDA.

-Waiter sends order details to chefs in the kitchen.

-The order is seen by the chefs in the kitchen who can right away start preparing the dish.

-After the chefs finish cooking the order, the take-away staff is notified.

-Waiter checks the notifications from chefs.

-Waiter delivers order to the customer.

-Waiter bills the customer and asks the customer to rate the service on the PDA. The order is archived.

-Customer pays bill and rates the restaurant service.

🡪Customer exits.

🡪Waiter sends the bill and rating details of customer to the manager.

🡪Waiter sends notification to the busboy to clean the table.

🡪Busboy Keeps track of dirty tables and update the table status as available when cleaning is done.

**ASSUMPTIONS:**

1) No tips are accepted in restaurant.

2) The tax amount is fixed in any bill irrespective of the items ordered(tax is 0.01$).

3) There are no special charges for valet parking , table reservation ,special baby chair or the kids play zone entrance.

4) Customer who arrive in between 11AM-3PM avail buffet offer and need to pay fixed amount of bill(7.99$).

5) There are always enough amount of tables for customers arriving into the restaurants . The customers are never made to wait for tables.

6)The restaurant has only one host, one manager , one busboy and one take-away staff at the take-away counter.

7)The customers come one after other and never at the same time .Also there is sufficient amount of time interval between the arrival of each customer into the restaurant.

8)The number of waiters is equal to number of chairs in the restaurant.

9)There are only 3 chefs in the restaurant .They get notifications and send notifications through the terminal present in the kitchen.

a)**Appetizer/Soup chef**: prepares only appetizers and soups.

b)**Main-course chef**: prepares only main-course dishes(lunch entre’e dishes).

c)**Dessert chef**: prepares only deserts.

10)The chefs are allowed to notify the waiter to deliver the food order only if all the items specified in the order are cooked and ready to be served.

11)only cash is accepted from customer for bill payment.

**USE-CASE DIAGRAMS:**

**ACTORS**  **USE-CASES**

Diner

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| host    Waiter    Kitchen Staff    Busboy  Management    **HIGH-LEVEL DESCRIPTIONS:**   |  | | --- | | **Use case**: Input Order  **Actors**: Waiter  **Goal**: To input an order for a meal  **Description**:  When a Diner orders a meal, the Waiter writes down the order and puts it into the system. The system presents this order to the Kitchen staff who prepares the food. |  |  | | --- | | **Use case**: Prepare orders  **Actors**: Kitchen staff  **Goal**: To prepare the orders presented by the system  **Description**:  The system presents the meal order to the Kitchen staff to prepare the food |  |  | | --- | | **Use case**: Announce order readiness  **Actors**: Kitchen staff and Bar staff  **Goal**: To Alert the Waiter to the readiness of the order  **Description**:  The Kitchen staff prepare the dishes and use the system to send an announcement to the Waiters terminal that they are ready to be served. | |  |

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|  | **Use case**: Print Bill  **Actors**: Waiter  **Goal**: To print a bill for the Diner  **Description**:  Once the Diner has finished their meal, the Waiter uses the system to print a bill for presentation to the Diner |  |  |
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| **Use case**: Input payment details  **Actors**: Waiter  **Goal:** To input payment details to the system  **Description:**  The Waiter takes the payment from the Diner and uses the system to input the details about the payment. |

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| **Use case**: View statistics  **Actors**: Management  **Goal**: To view statistics  **Description**:  Management use the system in order to view various statistics about the Waiters and the amount of money that they have taken |

**Extended use case description**

**Take order:**

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| **Use case:** Take order  **Actors:** Waiter  **Goal:** To input an order from the Diner | |
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| **Overview**  When a Diner places an order with the Waiter, the Waiter inputs this into the system.  The details of the order (including an identifier for the table and Waiter) are confirmed. | |
| **Typical course of events**  ***Actor action***  1. Begins the order process  3. Inputs the table number  5. Inputs the requested dishes  9. Confirm order | ***System response***  2. requests table number  4. request dishes ordered  6. adds selected dishes to the order  7. displays order  8. requests confirmation  10. Dishes order sent to the Kitchen  11. Waiter statistics updated |

**Take Payment**

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| **Use case:** Take payment  **Actors:** Waiter  **Goal:** To take payment from the customer | |
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| **Overview**  When the Diner has finished their meal, the waiter will present them with their bill and take payment. These details will be entered into the system | |
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| **Typical course of events**  ***Actor action***  1. Request a bill printout  3. Inputs the table number  5. Enter payment details  6.pay the bill in cash | ***System response***  2. requests table number  4. print the bill requested  7. Print receipt  8. Waiter statistics updated |

**CLASS DIAGRAM:**

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| host |  | Bill |
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| Request Bill()  Add Order Value( )  Print Bill( )  Accept Payment( )  alert busboy() |
| Allot table()  Alert waiter() |

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| Table |
| Table ID |
| Table status() |

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| --- |
| Order |
|  |
| Input order( )  Alert Kitchen( )  Alert Meal Ready() |

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| Payment |
|  |
| Payment Taken( ) |
| Meal |
| starter  main Course  desert |
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**Software model :**

The software model opted for developing this system is incremental model .The waterfall method is not suitable for projects which are iterative in nature . Incremental model suits such products . It is useful when the initial requirements are reasonably well defined and compelling need to provide functionality quickly . With the help of this model , functionality can be expanded further without completely changing architecture , structure and design . Software can be developed in increments.

That is why incremental model is chosen to develop the software management system.