[Mohamed Awaleh](mailto:19211819@brookes.ac.uk):

Task 5: Software Detailed Design Meeting Notes

Date ; 28th November 2024

All Team Members were present in this meeting and I discussed

Task 5 in which I moved onto in which we are discussing software detailed

design .

For this Task , I will operate as a software designer to

produce a detailed design of the system for object-oriented implementation of

the components in the architectural design of the subsystem which is CloudTables-Customer:

a mobile app for running on smart phones for restaurant customers to make table

booking, food order, bill payment, and service review and ranking, etc.

My Selected Component for Task 5 (a) and 5(b) and my chosen

component is Table Booking Manager which is responsible for handling restaurant

table availability , reservations and cancellations).

Task 5 (a) : Strucutral Model (UML Class Diagram)

Class Diagram Details

1.Component: Table Booking Manager

2.Classes and Relationships

**Reservation**

**Handler**

* Attributes:
* reservationId: String
* customerId: String
* tableId: String
* dateTime: DateTime
* status: String
* Methods:
* createReservation(customerId, tableId,

dateTime): Boolean

* cancelReservation(reservationId): Boolean
* updateReservation(reservationId,

newDateTime): Boolean

* **Table**
* Attributes:
* tableId: String
* capacity: Integer
* isAvailable: Boolean
* Methods:
* checkAvailability(dateTime): Boolean
* markAsReserved(): Void
* markAsAvailable(): Void
* **Customer**
* Attributes:
* customerId: String
* name: String
* contactInfo: String
* Methods:
* getReservationHistory():

List<Reservation>

* makeReservation(): Reservation
* **Relationships:**
* **ReservationHandler** is associated with multiple **Table**

and **Customer** objects.

**Task**

**5(b): Behaviour Model (UML Sequence Diagram)**

**Sequence**

**Diagram Details:**

**Scenario:**

**Customer Making a Reservation**

* Actors & Objects:
* Customer
* Table Booking Manager (ReservationHandler)
* Table
* NotificationService (Optional, for

confirmation messages)

* **Key Interactions:**
* **Customer** sends a makeReservation

request to the **ReservationHandler**.

* **ReservationHandler** checks availability via the **Table**

class.

* If available, **ReservationHandler**

creates a reservation and updates the status of the table.

* **ReservationHandler** sends a confirmation message to the **Customer**

through the **NotificationService**.

* **Frames for Advanced Modelling:**
* **alt Frame**: Handles alternate paths like "Table

Not Available."

* **loop Frame**: For retrying reservation if a conflict occurs.

**Team**

**Discussions & Finalization:**

* **All team members contributed:**
* Discussed and finalized individual components

to avoid overlap.

* Validated consistency between architectural

model and the chosen components for detailed design.

* Reviewed the attributes and methods of each

class to ensure they align with subsystem functionalities.

* Agreed on advanced modelling practices for

sequence diagrams (e.g., alt, loop).

* **Decisions which was Taken:**
* Each member to submit their structural and

behavioural diagrams for their respective components for peer review by next

Week.

[Ahmedul Abdin Akhter](mailto:19260026@brookes.ac.uk):

In our most recent group meeting, we focused on Task 4: Software Architectural Design and talked about our ideas for developing subsystem designs utilising a micro services framework. I've started working on the architectural design for the CloudTables-Manager subsystem, which gives restaurant managers a web interface to oversee their operations. The team provided updates on their respective subsystems, and we discussed how the services will interact and integrate successfully. The meeting enabled us to agree on our design approach and establish firm timelines for completing our separate architectural designs.

Mujtaba Anwar:

For this week's group meeting, we discussed task 4. I was able to finish task 4 part a which was about the architectural design for the CloudTables-Service subsystem and had started part b. The group was happy with my part a, however the part b wasn't as good so I decided to restart it. This feedback was important as it will make sure we are working on the right path to complete all of our tasks. For the next meeting my plan is to have task 4 and majority of task 5 completed as the deadline is approaching soon.