

**MINISTRY OF EDUCATION AND TRAINING**  
**HCMC UNIVERSITY OF TECHNOLOGY AND EDUCATION**  
**FACULTY FOR HIGH-QUALITY TRAINING**



# **Final Project**

## **Restaurant Reservation**

Course: Object-orient Software Design

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# DESIGN PATTERN

## 1) Builder Design Pattern

- Function: MealSelectionbyUser
  - I use Builder Design Pattern to adding table and booking
  - The Builder Pattern divides the structure of a complex object from its small details, so that the same process can produce objects with different details (thanks to different builders)
- Frequent use.

## 2) Interpreter Design Pattern

- Function: RestaurantSearch
- I use Interpreter Design Pattern for User can Search Different restaurant
- The Interpreter takes a language, builds an expression for that language, and an interpreter uses that expression to translate sentences. Given a series of contexts and then put into the Interpreter class, it will calculate the components in turn by putting each element in so it checks with the original context.

## 3) Iterator Pattern

- Function : PrintMealMenu
- I use Iterator Pattern for User to see Menu
- The Iterator pattern provides the ability to access and traverse the members of a collection regardless of how they are represented internally.

## 4) Observer Pattern

- Function: OrderTrackingByUser
- I use Observer Pattern to track an order in Real Time
- The Observer pattern is a software design pattern where an object, called the subject, maintains a list of its dependents, called observers, and notifies them automatically of any changes.

## 5) Command Design Pattern

- Function: MealOrderByUser
- I use Command Design Pattern to order and cancellation of table
- Encapsulate all the information needed into one object to perform an action or trigger an event to execute later. The information can include method names, required variables and values...or more simply, it allows the request to be turned into an independent object, which can be used to parameterize objects. object with different requirements like log, queue (undo/redo), transaction.

#### 6) Strategy Design Pattern

- Function: BuildMealForUser
- I use Strategy Design Pattern to Calculation of Tax based on the type of Restaurant.
- Design patterns help you abstract the behavior (behavior, method, function) of an object by exposing implementations to different classes.

**Conclusion:** In the end of this course, we knew more about design pattern. Help us can understand other people's code quickly (can be understood as the relationships between modules). All team members can easily communicate with each other to build the project without spending much time.