Game Design

The game's design is represented as follows :

- The player represents a singleton who is responsible for slicing objects and gaining points which are recorded in each round using the **Memento** design pattern .
- The sliced objects which are normal fruits , special fruits and bombs are represented as classes that all implement the abstract class **Game Object** and are generated using **Factory** design pattern .
- The game's levels vary according to the player's score , when his score exceeds a certain number , he goes to a higher level with the help of **State** design pattern .
- The player's data is all saved to an xml file through **XMLReadSave class .**
- The movement of game objects on screen is controlled by **objectMovement** class which implements **GameActions** interface .
- The MVC is represented by a **Model** which is recorded as the **Player** class , **Controller** which is responsible for managing the player's data and the **View** represented in the GamePanel for previewing the player's score.
- The GUI is represented in 3 frames :
  1. **WelcomeFrame** which appears which leads to the game .
  2. **GameFrame** which includes the **GamePanel** "where the game takes place ".
  3. **GameOverFrame** which appears when the player loses and displays his score.