

Design Patterns

Creational Patterns

- Factory Methods – Enemies, items (bombs, bonus...) are using this design pattern because they have an abstract class that declare the main functions needed to manage this type of objects.
- Object Pool - Used for bombs, to reuse exploded bombs and for bonus, in order to save memory.
- Singleton – Input Controller is using this pattern.

Structural Patterns

- Composite – Screens are using this pattern by constructing elements and concatenate them into a windows graphics.

Behavioral Patterns

- Iterator – Use to iterate objects along the entire project
- Strategy – It's used in enemy's behaviors (using an abstract class instead of interface), used in bad bonus (with an interface).
- Template Method - Used in enemies, items, bonus, commands and screens in which the superclass has abstract methods that are implemented in the child classes in the different ways.
- State – Used in Screen Manager
- Command – Used in commands between server and client.