

CSC207 PROJECT PHASE 2

Team members:

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Unit test converge: 21% classes, 31% lines

Most Important classes:

UserAccount, UserAccountManager, Board(including 3 subclasses – Game2048Board, SlidingBoard and MineBoard), BoardManager(including 3 subclasses – Game2048BoardManager, MineBoardManager and SlidingBoardManager), Tile(including 3 subclasses – Game2048Tile, MineTile and SlidingTile)

Design Patterns:

- Factory:
 - Creates BoardManager without having to specify the typeS of BoardManager.
 - Encapsulation of the creation of Objects in one class makes it more flexible to implement, change and test.
- Builder:
 - Creating and assembling the parts of the board in a separate builder object makes it more flexible to change the representation later independently from the Board class.
 - Creates different/flexible representations of the complex board class.
 - Building an object step by step makes it easier to debug and control.
 - Avoids the constructors taking in too many arguments – the long parameter list code smell.
- Observer
 - The change of states of the observable class automatically notifies a list of observers. This enables the view to be updated with the changes of the game states.
 - Makes the subjects and observers loosely coupled.
 - We rewrote the IObservable and IObserver interface to achieve inheritance of Boards.
- MVC
 - Decoupling of the three major components allows working in parallel and code reuse in the future
- Strategy
 - Separation of the algorithms and the classes that use them allows for code reuse and avoids code duplication
- Iterator
 - Allows the element of the 2048Board class(2048Tiles) to be accessed and traversed without exposing the internal data structure.

Presentation Outline:

- Introduction: Team, Summary of Presentation (Max)
- Database, Memory classes (Johnson)
- Register, Login (Johnson)
- Fragment, UI (Max)
- Sliding tiles: redo, undo, cheat, solvability, time counting (Frank)
- Mine Sweeper: Start Over Button (Frank)
- 2048: Start Over Button (Frank)
- Global/Personal Scoreboard, Scoring Strategy (Max)
- Design Patterns (Summer)
- Unit Test (Lucia)