

CRC Model

User	
username: username of User password: password of User getUsername: gets username of user setPassword: if user wants to change password matchHistory: collection of each game this User has played (Mode, numMoves, time)	UserDatabase UserAccount launchGame

Entity → Enterprise Business Rules

Board	
Shape: number of rows and column Size: rows x columns (number of tiles that are put on)	runGame GenerateBoard Tile

Entity → Enterprise Business Rules

promptLogin	
User login User sign up	createNewUser userLogin

Use Case→ Application Business Rules

CreateNewUser

createUser : username, password, empty
matchHistory for each modes
usernameCheck : if username exist in
userDataBase or not)
csv file for Local database

User
promptLogin
UserDataBase

UserLogin

username

password

password is valid/invalid

username exists/doesn't exist

InfoCheck

UserDatabase

Use Case→ Application Business Rules

UserDatabase

Stores a collection of Users for a local file

User
createNewUser

HistoryUpdater	
updateHistory: adds the last match played to User.	User

Use Case→ Application Business Rules

InfoCheck

password entered valid/invalid(from
userDatabase)
username exists/doesn't exists

UserDatabase
UserLogin

Tile	
key : integer value getKey : gets key value of Tile Theme : theme of tile	Board

launchGame

userPlay : link game stats to the user playing

Difficulty : menu for user to determine difficulty, will determine how many tiles are generated

runGame

Tile

runGame

generateBoard : create board based on user's input difficulty (randomly place tiles)

showTile : Reveals selected Tile

checkMatch : check if 2 consecutive tiles are a match

hideTile : if checkMatch == false, hide both tiles

User
gameSettings
generateBoard
getUserInput

getUserInput

getInput : gets the user's input

runGame

updateBoard

updateBoard: updates board with latest information

getUserInput
runGame

Controller → Interface Adapters

endGame

checkLeaderboard
promptNewGame
Add in history

launchGame
historyUpdater
LeaderBoard
gameSettings

Controller → Interface Adapters

generateBoard

Tile → based on difficulty, as
this determines how many tiles
are displayed

timer

updateNumMoves

Tile

gameSettings

Mutes the sound effects
Resets game for user
Pauses game for user
Exists game for user

runGame
launchGame
endGame

Leaderboard

Get leaderboard for each difficulty
Contains/displays top 10 scores and
username out of all users for a given
difficulty

UserDatabase