Πανεπιστήμιο Κρήτης –Τμήμα Επιστήμης Υπολογιστών

ΗΥ252– Αντικειμενοστρεφής Προγραμματισμός

Διδάσκων: Ι. Τζίτζικας

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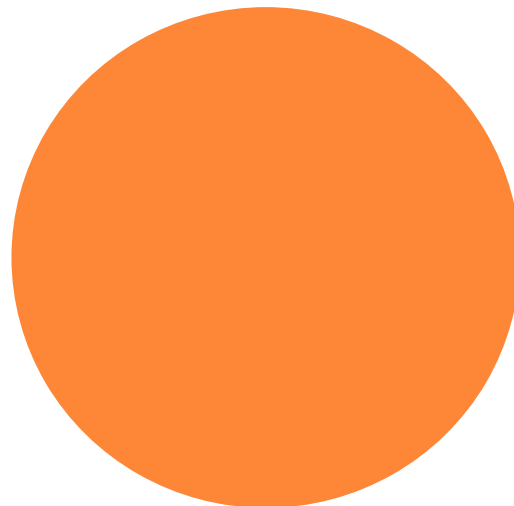
SORRY! BOARD GAME

Ioannis Lamprou

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Περιεχόμενα

1. Εισαγωγή

Η υλοποίηση της εργασίας θα βασιστεί πάνω στο μοντέλο MVC.Έτσι , σκοπός μας είναι ο Controller να είναι ο συνδετικός κρίκος των Model και view. Οπότε στη συνέχεια της αναφοράς μας θα αναλύσουμε λίγο ιδιαίτερα τα κομμάτια του Model και Controller που είναι σημαντικά για αυτή τη φάση και τέλος θα αναφερθούμε και λίγο στο view.

2. Η Σχεδίαση και οι Κλάσεις του Πακέτου Model

PACKAGE CARDS

Abstarct Class Card

Field:

●number

private int number

●ability

private String ability

●image

private ImageIcon image

Method Summary

Modifier and Type	Method	Description
String	**getAbility**()	**Accessor PostCondition** Returns ability of card
ImageIcon	**getImage**()	**Accessor Postcondtion** Returns the image of the card
int	**getNumber**()	**Accessor**
abstract boolean	**movePawn**(**Pawn** pawn, **Deck** deck)	**Observer** Checks if the pawn can play the card **Postcondition** Returns TRUE if the pawn can play the card
void	**setAbility** (java.lang.String ability)	**Transformer Postcondition** Sets ability of card
void	**setNumber**(int number)	**Transformer Postcondition** Sets number of card

Class SimpleNumberCard extends Card
Inherits all its methods from the Abstract Class Card

Class SorryCard extends Card
Inherits all its methods from the Abstract Class Card

Class NumberTwoCard extends SimpleNumberCard
Inherits all its methods from the Class SimpleNumberCard

Class NumberTenCard extends SimpleNumberCard
Inherits all its methods from the Class SimpleNumberCard

Class NumberSevenCard extends SimpleNumberCard
Inherits all its methods from the Class SimpleNumberCard

Class NumberOneCard extends SimpleNumberCard
Inherits all its methods from the Class SimpleNumberCard

Class NumberFourCard extends SimpleNumberCard
Inherits all its methods from the Class SimpleNumberCard

Class NumberElevenCard extends SimpleNumberCard
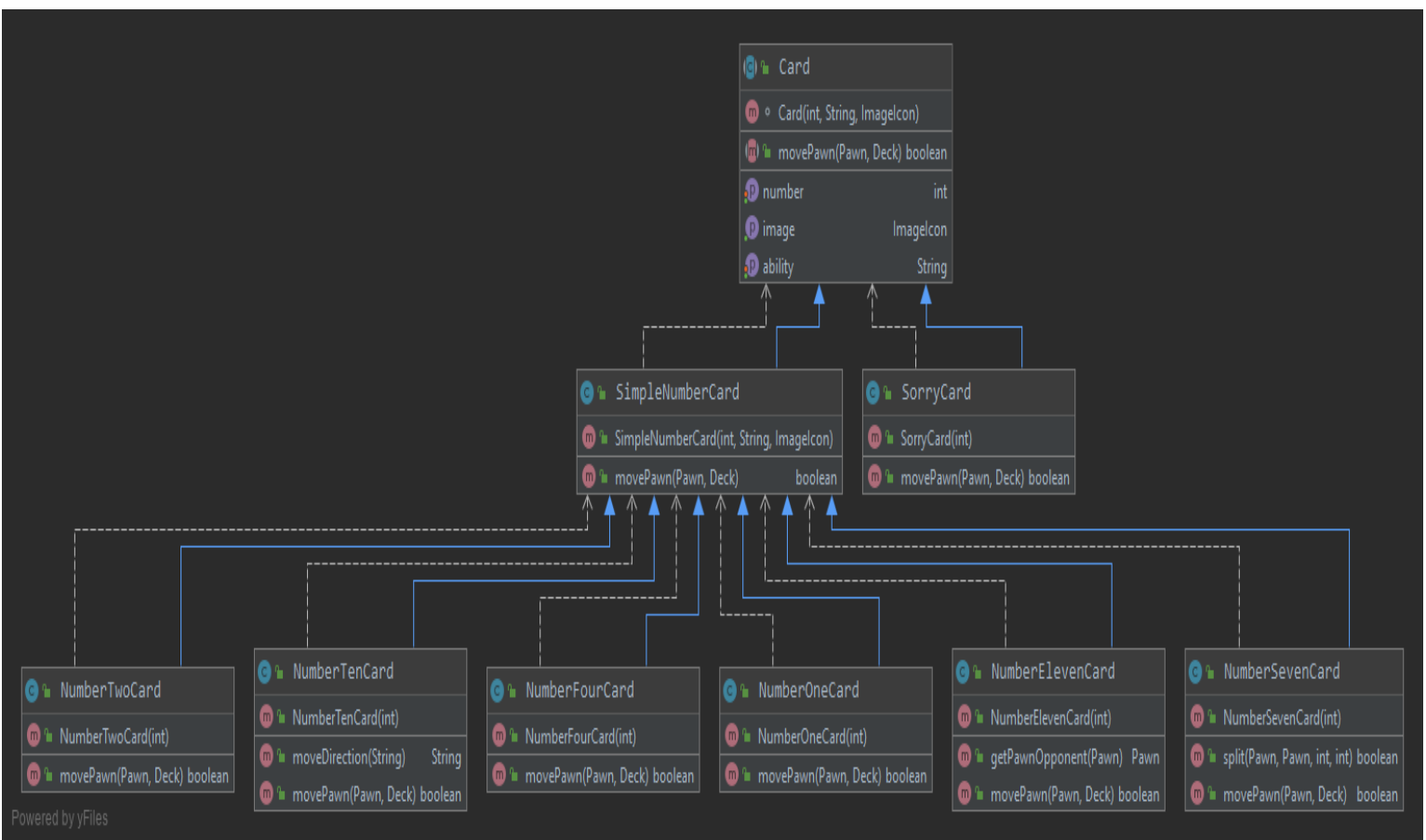Inherits all its methods from the Class SimpleNumberCard

PACKAGE DECK

Class Deck
Field Summary

Modifier and Type	Field
protected **Square**[]	**board**
static int[]	**CARD_RANK**
protected java.util.List<**Card**>	**deck**
int	**DECK_SIZE**
protected **Pawn**	**pawnRed1**
protected **Pawn**	**pawnRed2**
protected **Pawn**	**pawnYellow1**
protected **Pawn**	**pawnYellow2**
protected **Player**	**player1**
protected **Player**	**player2**
protected **HomeSquare**	**redHomeSquare**
protected **SafetyZoneSquare**[]	**redSafetyZoneSquares**
protected **StartSquare**	**redStartSquare**
protected **HomeSquare**	**yellowHomeSquare**
protected **SafetyZoneSquare**[]	**yellowSafetyZoneSquares**
protected **StartSquare**	**yellowStartSquare**

Method Summary

Modifier and Type	Method	Description
Card	**card_pick** (java.util.List<**Card**> deck)	Picks card and deletes element from list
void	**check_emptyDeck** (java.util.List<**Deck**> deck)	Checks if deck is empty
boolean	**check_fold**()	Checks if player can fold
private void	**createDeck**()	Creates deck, initializes deck cards, players and pawns
void	**init_pawnsnplayers**()	Initializing the pawns and the players
void	**init_table**()	Setting up the board
void	**move**(**Pawn** pawn, **Square**[] board, **Card** card)	Moves the pawn
void	**shuffle**()	Shuffles the cards using Random

P<small>ACKAGE</small> P<small>AWN</small>

Class Pawn

Field Summary

Modifier and Type	Field
private java.lang.String	**color**
private javax.swing.ImageIcon	**image**
private **Square**	**square**
private boolean	**state**

Method Summary

Modifier and Type	Method	Description
java.lang.String	**getColor**()	**Accessor Postcondition** Returns the color of the pawn
javax.swing.ImageIcon	**getImage**()	**Accessor Postcondtion** Returns the image of the pawn
Square	**getSquare**()	**Accessor Postcondition** Returns the square of the pawn
boolean	**getState**()	**Accessor Postcondition** Returns the state of the pawn
void	**setColor**(java.lang.String color)	**Transformer Postcondition** Sets the color of the pawn
void	**setSquare**(**Square** square)	**Transformer Postcondition** Sets the square of the pawn

Modifier and Type	Method	Description
void	**setState**(boolean state)	**Transformer Postcondition** Sets the state of the pawn

PACKAGE PLAYER

Class Player

Field Summary

Modifier and Type	Field
private java.lang.String	**color**
private **Pawn**	**pawn1**
private **Pawn**	**pawn2**

Method Summary

Modifier and Type	Method	Description
boolean	**checkPlays**(**Player** player)	Checks if is player's turn
java.lang.String	**getColor**()	**Accessor Postcondtions** Returns color of player
Pawn	**getPawn1**()	**Accessor Postcondtions** Returns pawn 1 of player
Pawn	**getPawn2**()	**Accessor Postcondtions** Returns pawn 2 of player
void	**setColor**	**Transformer Postcondition** Sets

Modifier and Type	Method	Description
	`(java.lang.String color)`	color of player
`void`	`setPawn1(Pawn pawn1)`	**Transformer Postcondition** Sets pawn 1 of player
`void`	`setPawn2(Pawn pawn2)`	**Transformer Postcondition** Sets pawn 2 of player

PACKAGE SQUARE

Abstract Class Square

Field Summary

Modifier and Type	Field
`private java.lang.String`	`color`
`private javax.swing.ImageIcon`	`image`
`private int`	`position`

Method Summary

Modifier and Type	Method	Description
`boolean`	`checkPawn(Pawn pawn)`	**Observer** Checks if there is a pawn on the square
`java.lang.String`	`getColor()`	**Accessor Postcondition** Returns the color of the square

Modifier and Type	Method	Description
int	**getPosition**()	**Accessor Postcondition** Returns the position of square
void	**setColor** (java.lang.String color)	**Transformer Postcondition** Sets the color of the square
void	**setPosition**(int position)	**Transformer Postcondition** Sets the position of the square

Class SimpleSquare extends Square
Inherits all its methods from the Class Square

Class StartSquare extends Square

Field Summary

Modifier and Type	Field	
private **Player**	**player**	

Method Summary

Modifier and Type	Method	Description
Player	**getPlayer**()	**Accessor Postcondtion** Returns the player/owner of the start square
void	**setPlayer** (**Player** player)	**Transformer Postcondtion** Sets the player/owner of the start square

Inherits rest of its methods from the Class Square

Class StartSlideSquare extends Square

Inherits rest of its methods from the Class Square

Class StartSlideSquare extends SlideSquare

Inherits rest of its methods from the Class SlideSquare

Class InternalSlideSquare extends SlideSquare

Inherits rest of its methods from the Class SlideSquare

Class EndSlideSquare

Inherits rest of its methods from the Class SlideSquare

Class SafetyZoneSquare

Field Summary

Modifier and Type	Field	
private **Player**	**player**	

Method Summary

Modifier and Type	Method	Description
Player	**getPlayer**()	**Accessor Postcondtion** Returns the player/owner of the start square
void	**setPlayer** (**Player** player)	**Transformer Postcondtion** Sets the player/owner of the start square

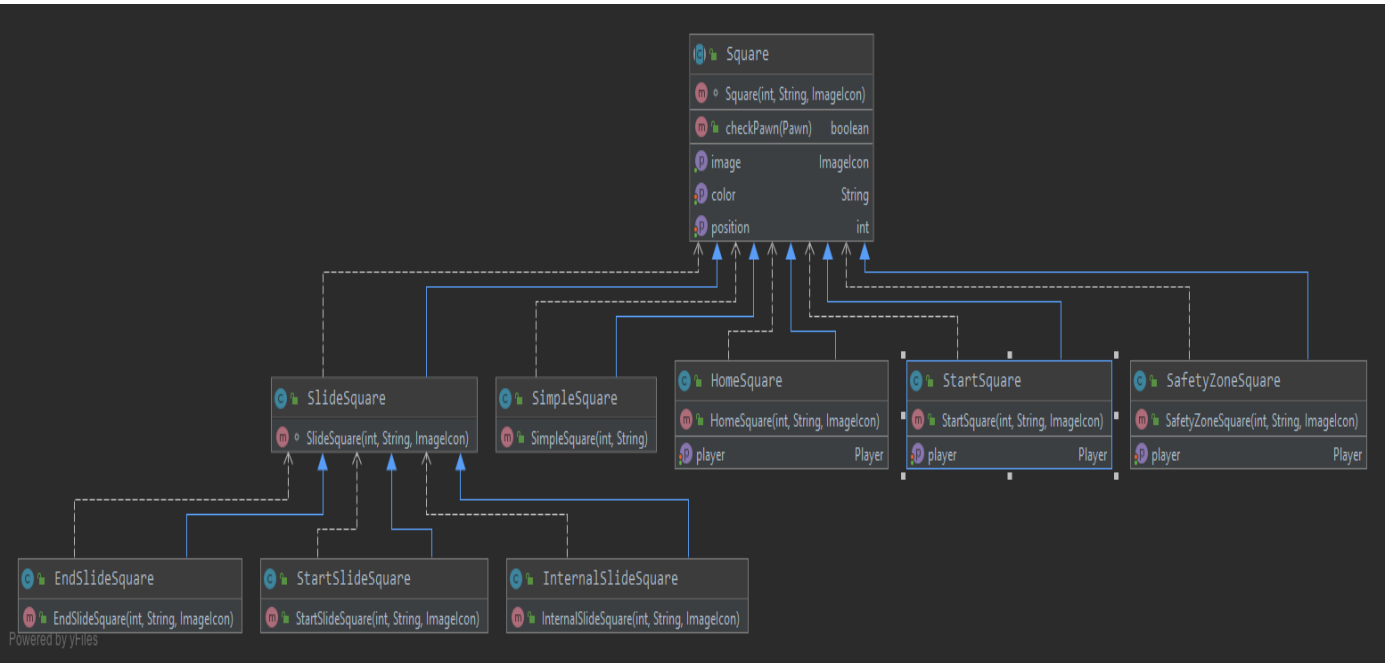Inherits rest of its methods from the Class Square

Class HomeSquare

Field Summary

Modifier and Type	Field	
private **Player**	**player**	

Method Summary

Modifier and Type	Method	Description
Player	**getPlayer**()	**Accessor Postcondtion** Returns the player/owner of the start square
void	**setPlayer** (**Player** player)	**Transformer Postcondtion** Sets the player/owner of the start square

Inherits rest of its methods from the Class Square

3. Η Σχεδίαση και οι Κλάσεις του Πακέτου Controller

Class Controller

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Field Summary

Modifier and Type	Field	Description
protected **Deck**	**deck**	
private boolean	**turn**	

Method Summary

Modifier and Type	Method	Description
void	**check_move**()	If all conditions are true move the pawn

Modifier and Type	Method	Description
void	**endgame**()	Ends the game
boolean	**getTurn**()	**Accessor Postcondition** Returns the turn of player
void	**setTurn**(boolean turn)	**Transformer Postcondition** Sets Turn of player
void	**winner**()	Sets the winner

4. Η Σχεδίαση και οι Κλάσεις του Πακέτου View

Class View

The attributes of the Class View are not ready yet
Method Summary

Modifier and Type	Method	Description
void	**createCards**()	Creates Card Area
void	**createCardText**()	Creates Text under Cards
void	**createFold**()	Creates Fold button
void	**createGreenBackground**()	Creates the Green background
void	**createHome**()	Creates Home Squares
void	**createInfobox**()	Creates Info Box

Modifier and Type	Method	Description
void	**createLogo**()	Creates Logo Photo
void	**createMenu**()	Creates Menu Bar
void	**createPawns**()	Creates Pawns
void	**createPhotoSquare**()	Creates Squares with photo
void	**createSquares**()	Create Squares Area
void	**createStart**()	Creates Start Squares
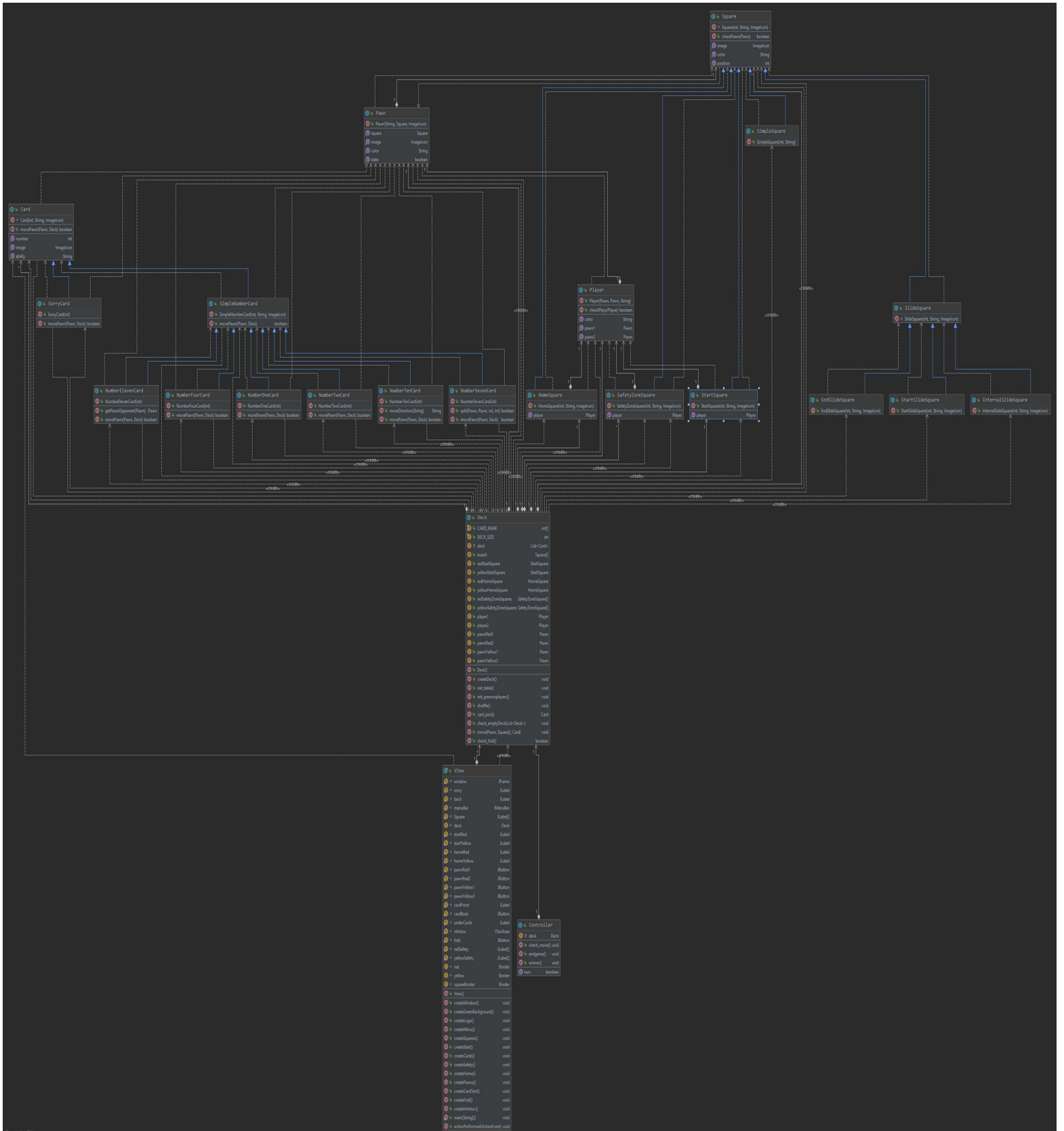
5. ΑΛΛΑΓΕΣ ΣΤΗΝ Β' ΦΑΣΗ

Με την εκιννηση της Β' Φασης εγινε επανασχεδιασμος της δομης του κωδικα αφου η κλαση Controller, πηρε συμπληρωματικο ρολο και η επικοινωνια μεταξυ του View(GUI) και των δεδομενων του παιχνιδιου γινεται κατευθειαν μεσω της Deck. Το μεγαλυτερο μερος της λειτουργειας του προγραμματος συμβαινει στην μεθοδο move της Deck, στην οποια γινονται οι απαραιτητοι ελεγχοι και τα πιονια κινουντε, με την View να παιρνει αυτα τα δεδομενα και να τα αναπαραγει με γραφικα.