

Game Controller
-Deck -> deck object -Stack -> list of card objects -players -> list of players -topCard -> current card to compare with other cards -currentPlayerIndex -> int keeps track of player index -isGameOver -> boolean -isReversed -> boolean
+setupGame() -> initialize game and ask for PVP or PVM +dealInitialCards() -> deal 7 cards to each player +playGame() -> main function that runs game +handlePlayerTurn(Player object) -> determine if player needs to draw cards and find playable cards +drawCard() -> draw card from deck, reshuffle if needed +getNextPlayerIndex() -> index of player +moveToNextPlayer() -> change the current player +getValidInput() -> force user for valid input

GamePlayPanel
-GameController -> game controller object -topCard -> card object -currentPlayer -> player object
initGameAreas() -> initialize player's game areas, panels, buttons, and other GUI elements initializeGame(list of players) -> initialize game with players updateGameState(topcard, currentPlayer) -> update topcard and who is playing handleDeckClick() -> draw from deck when clicked selectCard(card) -> play card chosen

CardView
-card -> card object -faceUp -> boolean -isPlayable -> boolean
paintComponent() -> paints cards colors drawCardBack() -> draw the back of the card drawCardFront() -> draw the front of the card

PlayerHandView
-Player -> object -cardViews -> list of cards -isCurrentPlayer -> boolean -isOpponent -> boolean
updateHand() -> update visual hand updatePlayableCards(topCard) -> show playable cards paintComponents(g) -> paint stuff

Player
-name -> string -hand -> card objects -isComputer -> boolean
+GetPlayableCards(LastPlayed -> object) -> take in lastPlayed card, return list of cards that are playable +playComputerCard(topcard) -> computer determines which card to play based on topcard. +hasWon() -> return if player's hand is empty +handSize() -> return size of hand +removeCard(index) -> remove card at listed index +addCard(card) -> add card to hand +playCard() -> remove card from hand and return card

ZweiGUI
windowWidth -> width of frame windowHeight -> height of frame CardLayout -> card layout GameController -> game controller
initWelcomePanel() -> welcome frame initGamePanel() -> game frame createCardpanel(text,width,height)-> card frame

Deck
-deckList -> card objects
+shuffle() -> mix cards
+deal() -> return card

Cards
-color -> string (R,G,B,Y)
-number -> int (0-9)
-ability -> string (special characters like *, ~, +)
+isPlayable(topCard)->return if card is playable