Main

- + main (args : String [*])
- + parseCommands ()
- + getCommands (): boolean

model

User

- - username: String
- - password: String
- - nickname: String
- - score: int
- - mainDeckID: int
- + getUserByUsername (username : String): User
- + getUserByNickname (nickname : String): User
- + isPasswordCorrect (password : String): boolean
- + setPassword (password : String)
- + getNickname (): String
- + setNickname (nickname : String)
- + getUsername (): String
- + getScore (): int
- + setScore (score : int)

Card

- - name: String
- - number: String
- - description: String
- - type: CardType

«enumeration» CardType

MONSTER
SPELL
TRAP

«enumeration» CardAttribute

DARK
DIVINE
EARTH
FIRE
LIGHT
WATER
WIND

Monster

- - level: int
- - attackPoints: int
- - defensePoints: int
- - attribute: CardAttribute
- - type: MonsterType
- - effect: EffectType
- - summon: SummonType

Spell

- - property: Card Property

Trap

- - property: Card Property

«enumeration» MonsterType

AQUA
BEAST
BEAST_WARRIOR
CREATOR_GOD
CYBERSE
DINOSAUR
DIVINE_BEAST
DRAGON
FAIRY
FIEND
FISH
INSECT
MACHINE
PLANT
PSYCHIC
PYRO
REPTILE
ROCK
SEA_SERPENT
SPELLCASTER
THUNDER
WARRIOR
WINGED_BEAST
WYRM
ZOMBIE

«enumeration» EffectType

NORMAL
CONTINUOUS
IGNITION
TRIGGER
QUICK

«enumeration» SummonType

NORMAL
TRIBUTE
SPECIAL
RITUAL

Player

- - user: User
- - deck: GameDeck
- - field: Field
- - lifePoints: int

Deck

- - mainDeck: List<Card>
- - sideDeck: List<Card>
- - username: String
- - id: int
- - name: String

GameCard

- - card: Card
- - attackModifier: List<Integer>
- - defenseModifier: List<Integer>
- - isFaceDown: boolean
- - isRevealed: boolean
- - id: int
- - flip ()
- + changePosition ()

Field

- - deck: List<GameCard>
- - hand: List<GameCard>
- - graveyard: List<GameCard>
- - banished: List<GameCard>
- - monsterZone: GameCard [5]
- - spellZone: GameCard [5]
- - fieldZone: GameCard
- + drawCard (): GameCard

GameDeck

- - mainDeck: List<Card>
- - sideDeck: List<Card>
- + exchangeCard (int mainId, int sideId)

«enumeration» Phase

DRAW
STANDBY
MAIN1
BATTLE
MAIN2
END

CardLocation

- - position: int
- - isInHand: boolean
- - isFromEnemy: boolean
- - isFromMonsterZone: boolean
- - isFromSpellZone: boolean
- - isFromFieldZone: boolean
- - isFromGraveyard: boolean

«enumeration» CardProperty

NORMAL
CONTINUOUS
EQUIP
FIELD
QUICK_PLAY
RITUAL
COUNTER

«enumeration» MenuState

LOGIN
MAIN
DUEL
DECK
SCOREBOARD
PROFILE
SHOP
CARD_FACTORY

ShopCards

- - monsters: HashMap<Monster, Integer>
- - spells: HashMap<Spell, Integer>
- - traps: HashMap<Trap, Integer>

PlayerInventory

- - money: int
- - cardsStock: HashMap<String, Integer>
- - username: String
- + getInventoryByUsername (username : String)

RoundResult

- - isFirstPlayerWin: boolean
- - firstPlayerLifePoints: int
- - secondPlayerLifePoints: int

controller

ProgramController

- - state: MenuState
- - currentGameID: int
- + initialize ()
- + getInstance (): ProgramController
- + getState (): MenuState
- + setState (state : MenuState)
- + getCurrenctGameID (): int

CardFactoryController

- + getInstance (): CardFactory Controller
- + importCards (backupName : String)
- + exportCards (cardNames : String...)

DatabaseController

- - db: Path
- - dbs: HashMap<String, Path>
- - userList: List<User>
- - shopCards: ShopCards
- - playerInventories: List<PlayerInventory>
- - decks: List<Deck>
- + initialize ()
- - readFromFile (isonDB : Path)
- - writeToFile (isonDB : Path)
- + updateUsersToDB ()
- + getUserList (): List<User>
- + addUser (user : User)
- + getShopCards (): ShopCards
- + getPlayerInventories (): List<PlayerInventory>
- + updateInventoriesToDB ()
- + exportShopCards (cards : ShopCards)
- + importShopCards (cards : ShopCards)
- + getDecks (): List<Deck>
- + updateDecksToDB ()
- + addDeck (deck : Deck)

DeckController

- - user: User
- + getInstance (): DeckController
- + create (name : String)
- + delete (name : String)
- + activate (name : String)
- + addCard (deckName : String, cardName : String, isSideDeck : boolean)
- + removeCard (deckName : String, cardName : String, isSideDeck : boolean)
- + showAllDecks ()
- + showAllCards ()
- + showDeck (name : String)

UserController

- - view: UserView
- + getInstance (): UserController
- + registerUser (username : String, password : String, nickname : String)
- + loginUser (username : String, password : String)

MainMenuController

- - user: User
- - view: MainMenuView
- + logout ()
- + setUser (user : User)
- + getUser (): User
- + getInstance (): MainMenuController

ScoreboardController

- - user: User
- - view: ScoreboardView
- + setUser (user : User)
- + getUser (): User
- + showScoreboard ()
- + getInstance (): ScoreboardController

ProfileController

- - user: User
- - view: ProfileView
- + setUser (user : User)
- + getUser (): User
- + changeNickname (nickname : String)
- + changePassword (currecntPassword : String, newPassword : String)
- + getInstance (): ProfileController

GameController

- - gameControllers: List<GameController>
- - id: int
- - selectionController: SelectionController
- - gameTurnController: GameTurnController
- - cheatController: CheatController
- - firstPlayer: Player
- - secondPlayer: Player
- - isFirstPlayerTurn: boolean
- - effectControllers: List<EffectController>
- - numberOfRounds: int
- - roundReults: List<RoundResult>
- + getGameControllerById (id : int): GameController
- + getCurrentPlayer (): Player
- + getRivalPlayer (): Player
- + play ()
- + select (location : CardLocation)
- + set ()
- + setPositon (isAttack : boolean)
- + summon ()
- + nextPhase ()
- + endRound (isFirstPlayerWin : boolean)
- + startRound ()
- + attack (position : int)
- + directAttack ()
- + activateEffect ()
- + flipSummon ()
- + surrender ()
- + cancel ()
- + exchangeSideDeckCards ()

SelectionController

- - card: GameCard
- - location: CardLocation
- - gameControllerID: int
- + select (location : CardLocation)

SetController

- - card: GameCard
- - gameControllerID: int
- + set ()
- + changePosition (isOffense : boolean): boolean

SummonController

- - card: GameCard
- - gameControllerID: int
- + normalSummon (): boolean
- + tributeSummon (): boolean
- + specialSummon (): boolean
- + ritualSummon (): boolean
- + flipSummon (): boolean

AttackController

- - attackingMonster: GameCard
- - attackedMonster: GameCard
- - gameControllerID: int
- + attack (): boolean
- + directAttack (): boolean

GameTurnController

- - phase: Phase
- - gameControllerID: int
- - attackedMonsters: List<GameCard>
- - chain: List<GameCard>
- - isFirstTurn: boolean
- + drawPhase ()
- + standbyPhase ()
- + firstMainPhase ()
- + battlePhase ()
- + secondMainPhase ()
- + endPhase ()
- + getPhase (): Phase
- + hasMonsterAttacked (monster : GameCard): boolean
- + makeChain ()

CheatController

- - gameControllerID: int
- + increaseLifePoints (amount : int)
- + instantWin ()
- + increaseMoney (user : User, amount : int)
- + forceDraw ()

EffectController

- - cardsAffected: List<GameCard>
- - gameControllerID: int
- - effectCard: GameCard
- - remainTurns: int
- + applyEffect ()

ShopController

- - user: User
- + buy (name : String)
- + showAllCards ()
- + getInstance (): ShopController

AIController

- - gameControllerID: int
- + play ()
- + standbyPhase ()
- + firstMainPhase ()
- + battlePhase ()
- + secondMainPhase ()

view

View

- # successMessages: HashMap<Integer, String>
- # errorMessages: HashMap<Integer, String>
- + ERROR_INVALID_COMMAND: int
- + showSuccess (errorID : int, values : String...)
- + showError (errorID : int, values : String...)

ImageToASCIIArt

- - imageName: String
- - scale: float
- + getASCIIArt (): String

ErrorView

- + ERROR_COMMAND_INVALID: int
- + showError (errorID : int)

UserView

- + SUCCESS_USER_CREATE: int
- + SUCCESS_USER_LOGIN: int
- + ERROR_USER_USERNAME_ALREADY_TAKEN: int
- + ERROR_USER_NICKNAME_ALREADY_TAKEN: int
- + ERROR_USER_INCORRECT_USERNAME_PASSWORD: int

ScoreboardView

- + showScoreboard (scoreboard : List<User>)

MainMenuView

- + SUCCESS_LOGOUT: int

ShopView

- + ERROR_CARD_NAME_INVALID
- + ERROR_NOT_ENOUGH_MONEY
- + showCards ()

ProfileView

- + SUCCESS_CHANGE_NICKNAME: int
- + SUCCESS_CHANGE_PASSWORD: int
- + ERROR_NICKNAME_ALREADY_TAKEN: int
- + ERROR_PASSWORD_WRONG
- + ERROR_PASSWORD_REPEATED

DeckView

- - SUCCESS_DECK_CREATE
- - SUCCESS_DECK_DELETE
- - SUCCESS_DECK_ACTIVATE
- - SUCCESS_DECK_CARD_ADD
- - SUCCESS_DECK_CARD_REMOVE
- - ERROR_DECK_ALREADY_EXISTS
- - ERROR_DECK_NOT_EXISTS
- - ERROR_CARD_NAME_INVALID
- - ERROR_DECK_FULL
- - ERROR_DECK_MORE_THAN_THREE_CARDS
- - ERROR_DECK_CARD_NOT_FOUND
- + showAllDecks (decks : List<Deck>)
- + showDeck (deck : Deck)
- + showCards (inventory : PlayerInventory)

GameView

- + showGameField (firstPlayer : Player, secondPlayer : Player, isFirstPlayerTurn : boolean)
- + showPhase (phase : Phase)
- + showTurn (user : User)
- + getTributeMonsters ()
- + getRitualMonsters (level : int)
- + getPlayerConfirmation (confirmation : String)
- + showGraveyard (player : Player)
- + showCard (card : Card)
- + showWinMessage (winnerNickname : String, winnerScore : int, loserScore : int)

command

MenuCommand

- + exit ()
- + enter (state : MenuState)
- + showCurrent ()

UserCommand

- + create (username : String, password : String, nickname : String)
- + login (username : String, password : String)
- + logout ()
- - isAvailable (): boolean
- - isLogoutAvailable (): boolean
- - isParamsValid (params : String...)

ScoreboardCommand

- + show ()
- - isAvailable (): boolean

ProfileCommand

- + change (isPassword : boolean, nickname : String, current Password : String, newPassword : String)
- + isAvailable (): boolean
- + isParamsValid (params : String...)

CardCommand

- + show (name : String, isSelected : boolean)

DeckCommand

- + create (name : String)
- + delete (name : String)
- + setActive (name : String)
- + addCard (deckName : String, cardName : String, isSideDeck : boolean)
- + removeCard (deckName : String, cardName : String, isSideDeck : boolean)
- + show (name : String, isSide : boolean, isAll : boolean, isCards : boolean)
- + isAvailable (): boolean

ShopCommand

- + buy (cardName : String)
- + show (isAll : boolean)
- + isAvailable (): boolean

DuelCommand

- - isNew: boolean
- - rounds: int
- - isAI: boolean
- - secondPlayerUsername: String
- + run ()
- + isAvailable (): boolean

SelectCommand

- - address: int
- - isDeselected: boolean
- - isOpponent: boolean
- - isMonster: boolean
- - isSpell: boolean
- - isField: boolean
- - isHand: boolean
- + run ()
- + isAvailable (): boolean

NextCommand

- + phase ()
- + isAvailable (): boolean

SummonCommand

- + run ()
- + isAvailable (): boolean

SetCommand

- - position: String
- + isAvailable (): boolean

FlipSummonCommand

- + run ()
- + isAvailable (): boolean

AttackCommand

- - position: int
- + direct ()
- + run ()
- + isAvailable (): boolean

ActivateCommand

- + effect ()
- + isAvailable (): boolean

ShowCommand

- + graveyard ()
- + isAvailable (): boolean

ExchangeCommand

- + card (mainDeckCard : String, sideDeckCard : String)

SurrenderCommand

- + run ()

CancelCommand

- + run ()