



PERIMETER\_TOWER DEFENCE\_TURRRET SQUARE\_TOWER ROUND\_TOWER ARMOURY BARRACKS MERECENARY\_POST ENIGINEER\_GUILD KILLING\_PIT OIL\_SMELTOR CAGED\_WAR\_DOGS PITCH\_DITCH SIEGE\_TENT STABLE APPLE\_ORCHARD DIARY\_FARMER HOPS\_FARMER HUNTER\_POST WHEAT\_FARMER BAKERY **BREWER GRANERY** MILL IRON\_MINE MARKET OX\_TETHER PITCH\_RIG QUARRY STOCKPILE WOODCUTTER HOVEL CHURCH CATHEDRAL ARMOURER BLACKSMITH FLETCHER POLETURNER

Database - users : ArrayList<User>() - currentGameMap : ArrayList<MapCell>() <u>- loggedInUser : User</u> - turnsPassed : int <u>- totalTurns : int</u> + getUsers() : ArrayList<User>() + getCurrentGameMap() : ArrayLlst<MapCell>() + getLoggedInUser(): User + getMapCellByCoordinates(x : int, y : int) : MapCell + getTurnsPassed() : int + getTotalTurns(): int + addUser(user : User) : void <u>+ setCurrenGameMap(map : ArrayList<MapCell>) : void</u> + setLoggedInUser(loggedInUser : User) : void + setTotalTurns(totalTurn : int) : void + increaseTurnsPassed(): void

<<enumeration>>

Direction

- Direction(direction : String)<<constructor>>

+ getDirection(direction : Direction) : String

NORTH

EAST

WEST

SOUTH

- direction : String

Empire

- controller : LoginMenuController - scanner : Scanner + run() : void

+ enterSignupMenu() : void + loginUser(matcher : Matcher) : void + forgetPassword(matcher : Matcher) : void + isPasswordCorrect(matcher : Matcher) : void

LoginMenu

SignupMenu - controller : SignupMenuController + run(scanner : Scanner) : void + enterLoginMenu() : void + createUser(matcher : Matcher) : void + pickQuestion(matcher : Matcher) : void

MainMenu - controller : MainMenuController + run(scanner : Scanner) : void + logout() : void + enterProfileMenu() : void + startNewGame(matcher : Matcher) : void

BuildingMenu - controller : BuildingMenuController + run(scanner : Scanner) : void + dropBuilding(matcher : Matcher) : void + selectBuilding(matcher : Matcher) : void + createUnit(matcher : Matcher) : void + repair() : void

TradeMenu - controller : TradeMenuController + run(scanner : Scanner) : void + tradeRequest(matcher : Matcher) : void + tradeList() : void + tradeAccept(matcher : Matcher) : void + tradeHistory() : void

ShopMenu - controller : ShopMenuController + run(scanner : Scanner) : void + showPriceList() : void + buyltem(matcher : Matcher) : void + sellItem(matcher : Matcher) : void

ProfileMenu - controller : ProfileMenuController

+ run(scanner : Scanner) : void + changeUsername(matcher : Matcher) : void + changeNickname(matcher : Matcher) : void + changePassword(matcher : Matcher) : void + changeEmail(matcher : Matcher) : void + changeSlogan(matcher : Matcher) : void + removeSlogan() : void + displayHighScore() : void + displayRank() : void + displaySlogan() : void + displayProfile() : void

UnitMenu - controller : UnitController + run(scanner : Scanner) : void + selectUnit(matcher : Matcher) : void + moveUnit(matcher : Matcher) : void + patrolUnit(matcher : Matcher) : void + setUnitMood(matcher : Matcher) : void + attackEnemy(matcher : Matcher) : void + airAttack(matcher : Matcher) : void + pourOil(matcher : Matcher) : void + digTunnel(matcher : Matcher) : void + buildSurroundingEquipment(matcher : Matcher) : void + disbandUnit() : void

+ digDitch(matcher : Matcher) : void + fillDitch(matcher : Matcher) : void + burnOil() : void

- controller : GameMenuController + run(scanner : Scanner) : void + chooseMap(matcher : Matcher) : void + nextTurn() : void + showMap(matcher : Matcher) : void + enterEmpireMenu() : void + enterBuildingMenu() : void + enterMapMenu() : void + enterUnitMenu(): void + enterShopMenu() : void + enterTradeMenu() : void

GameMenu

MapMenu - controller : MapMenuConotroller + run(scanner : Scanner) : void + showMap(x : int, y : int) : void + moveMap(matcher : Matcher) : void + showDetails(matcher : Matcher) : void + setTexture(matcher : Matcher) : void + clearBlock(matcher : Matcher) : void + dropRock(matcher : Matcher) : void + dropTree(matcher : Matcher) : void + dropBuilding(matcher : Matcher) : void + dropUnit(matcher : Matcher) : void

EmpireMenu - controller : EmpireMenuController + run(scanner : Scanner) : void + showPopularity() : void + showPopularityFactors() : void + showfoodList(): void + setFoodRate(mathcer : Matcher) : void + showFoodRate() : void + setTaxRate(matcher : Matcher) : void + showTaxRate() : void + setFearRate(matcher : Matcher) : void + showFearRate() : void

ontroller

SignupMenuCotroller

+ enterLoginMenu(): SignupMenuMessages

+ createUser(username: String, password: String, passwordConfirm: String, nickname: String, email: String, slogan: String): SignupMenuMessages

+ pickQuestion(questionNumber: int, answer: String, answerComfirm: String): SignupMenuMessages

+ captcha(): String

+ randomPasswordGenerator(): String

+ randomSloganGenerator(): String

+ validEmail(email: String): boolean

+ validPassword(password: String): boolean

+ validUsername(username: String): boolean

# showMap(x : int , y : int) : GameMenuMessages

# createCustomMap(width : int , length : int) : GameMenuMessages

# hertTurn() : GameMenuMessages

# digDitch(x : int)

# digDit

UnitMenuController - selectedUnit : Unit + burnOil() : UnitMenuMessages + fillDitch(x : int , y : int) : UnitMenuMessages + digDitch(x : int , y : int) : UnitMenuMessages + disbandUnit() : UnitMenuMessages + buildSurroundingEquipment(equipmentName : String) : UnitMenuMessages + digTunnel(x : int , y : int) : UnitMenuMessages + pourOil(direction : String) : UnitMenuMessages + airAttack(x : int , y : int) : UnitMenuMessages + attackEnemy(x : int , y : int) : UnitMenuMessages + setUnitMood(x : int , y : int , state : String) : UnitMenuMessages + patrolUnit(x1 : int , y1 : int , x2 : int , y2 : int) : UnitMenuMessages + moveUnit(x : int , y : int) : UnitMenuMessages + selectUnit(x : int , y : int) : UnitMenuMessages + getSelectedUnit() : Unit

ShopMenuController

+ sellItem(itemName : String , itemAmount : int) : ShopMenuMessages

+ buyItem(itemName : String , itemAmount : int) : ShopMenuMessages

+ showPriceList() : String

LoginMenuController

+ isPasswordCorrect(matcher : Matcher) : LoginMenuMessages

+ forgetPassword() : LoginMenuMessages

+ loginUser(username : String , password : String) : LoginMenuMessages

MainMenuController

+ startNewGame(users : String , turnsCount : int) : MainMenuMessages

BuildingMenuController

- selectedBuilding : Building

+ repair() : BuildingMenuMessages

+ createUnit(type : String , count : int) : BuildingMenuMessages

+ selectBuilding(x : int , y : int) : BuildingMenuMessages

+ dropBuilding(x : int , y : int , type : String) : BuildingMenuMessages

+ getSelectedBuilding(): Building

EmpireMenuController

+ showFearRate() : int

+ setFearRate(rateNumber : int) : EmpireMenuMessages

+ setTaxRate(rateNumber : int) : EmpireMenuMessages

+ showFoodRate() : int

+ setFoodRate(rateNumber : int) : EmpireMenuMessages

+ showfoodList() : int

+ showPopularityFactors() : String

+ showPopularity() : int

MapMenuController
+ dropUnit(x : int , y : int , type : String , count : int) : MapMenuMessages
+ dropBuilding(x : int , y : int , type : String) : MapMenuMessages
+ dropTree(x : int , y : int , type : String) : MapMenuMessages
+ dropRock(x : int , y : int , direction : String) : MapMenuMessages
+ clearBlock(x : int , y : int) : MapMenuMessages
+ setTexture(x : int , y : int , type : String) : MapMenuMessages
+ setTexture(x1 : int , y1 : int , x2 : int , y2 ; int , type : String) : MapMenuMessages
+ showDetails(x : int, y : int) : MapMenuMessages
+ moveMap(directions : String) : MapMenuMessages
+ showMap(x : int, y : int) : MapMenuMessages

ProfileMenuController

+ displayProfile(): String

+ displaySlogan(): ProfileMenuMessages

+ displayRank(): int

+ displayHighScore(): int

+ removeSlogan(): void

+ changeSlogan(slogan: String): ProfileMenuMessages

+ changeEmail(email: String): ProfileMenuMessages

+ changePassword(oldPassword: String, newPassword: String): ProfileMenuMessages

+ changeNickname(nickname: String): ProfileMenuMessages

+ changeUsername(username: String): ProfileMenuMessages

TradeMenuController

+ tradeHistory(): String
+ tradeAccept(id: int, message: String): TradeMenuMessages
+ tradeList(): String
+ tradeRequest(resourceType: String, resourceAmount: int, price: int, message: String): TradeMenuMessages

CREATE\_USER

+ regex : String

ENTER\_LOGIN\_MENU

<<enumeration>> LoginMenuCommands USER\_LOGIN FORGET\_PASSWORD ENTER\_SIGNUP\_MENU + regex : String + LoginMenuCommands(regex : String) : << constructor >> + getMatcher(input : String , regex : LoginMenuCommands) : Matcher

+ SignupMenuCommands(regex : String) : << constructor >>

+ getMatcher(input : String , regex : SignupMenuCommands) : Matcher

<<enumeration>> SignupMenuCommands

<<enumeration>> CHANGE\_USERNAME

SUCCESS CHANGE\_NICKNAME CHANGE\_PASSWORD SAME\_PASSWORD CHANGE\_EMAIL WEAK\_PASSWORD CHANGE\_SLOGAN REMOVE\_SLOGAN INVALID\_EMAIL DISPLAY\_HIGHSCORE SLOGAN\_DOESNT\_EXIST DISPLAY\_RANK BLANK\_FIELD DISPLAY\_SLOGAN DISPLAY\_PROFILE BACK + regex : String + ProfileMenuCommands(regex : String) : << constructor >> + getMatcher(input : String , regex : ProfileMenuCommands) : Matcher

LOGOUT ENTER\_PROFILE\_MENU START\_NEW\_GAME + regex : String + MainMenuCommands(regex : String) : << constructor >> + getMatcher(input : String , regex : ProfileMenuCommands) : Matcher <enumeration>>
MapMenuCommands

<enumeration>> MainMenuCommands

SHOW\_MAP MOVE\_MAP SHOW\_DETAILS SET\_TEXTURE CLEAR\_BLOCK DROP\_ROCK DROP\_TREE DROP\_BUILDING DROP\_UNIT EXIT + regex : String

+ MapMenuCommands(regex : String) : << constructor >> + getMatcher(input : String , regex : ProfileMenuCommands) : Matcher

<enumeration>>
GameMenuCommands CHOOSE\_GAME\_MAP SHOW\_MAP DEFINE\_MAP\_SIZE ENTER\_EMPIRE\_MENU ENTER\_BUILDING\_MENU ENTER\_UNIT\_MENU ENTER\_TRADE\_MENU ENTER\_SHOP\_MENU + regex : String + GameMenuCommands(regex : String) : << constructor >>

+ getMatcher(input : String , regex : ProfileMenuCommands) : Matcher

SignupMenuMessages SUCCESS BLANK\_FIELD INVALID\_USERNAME USERNAME\_EXISTS WEAK\_PASSWORD PASSWORD\_DOESNT\_MATCH EMAIL\_EXISTS INVALID\_EMAIL

<<enumeration>> LoginMenuMessages SUCCESS WRONG\_PASSWORD USERNAME\_DOESNT\_EXISTS

<<enumeration>> ProfileMenuMessages INCORRECT\_PASSWORD PASSWORD\_DOESNT\_MATCH

<enumeration>> MainMenuMessages SUCCESS USERNAMES\_DOESNT\_EXIST

<<enumeration>> MapMenuMessages SUCCESS X\_OUT\_OF\_BOUNDS Y\_OUT\_OF\_BOUNDS INVALID\_DIRECTION INVALID\_TYPE CELL\_IS\_FULL INAPPROPRIATE\_TEXTURE

<<enumeration>> GameMenuMessages SUCCESS INVALID\_SIZE

INVALID\_MAP\_NUMBER

EmpireMenuCommands SHOW\_POPULARITY\_FACTORS SHOW\_POPULARITY SHOW\_FOOD\_LIST SET\_FOOD\_RATE SHOW\_FOOD\_RATE SET\_TAX\_RATE SHOW\_TAX\_RATE SET\_FEAR\_RATE SHOW\_FEAR\_RATE

+ regex : String + EmpireMenuCommands(regex : String) : << constructor >> + getMatcher(input : String , regex : ProfileMenuCommands) : Matcher

<<enumeration>> BuldingMenuCommands DROP\_BUILDING SELECT\_BUILDING CREATE\_UNIT REPAIR BACK + regex : String

+ BuldingMenuCommands(regex : String) : << constructor >> + getMatcher(input : String , regex : ProfileMenuCommands) : Matcher

SELECT\_UNIT

MOVE\_UNIT

PETROL\_UNIT

AIR\_ATTACK

DIG\_TUNNEL

DISBAND\_UNIT

DIG\_DITCH

BURN\_OIL

FILL\_DITCH

+ regex : String

TRADE\_REQUEST

ACCEPT\_TRADE

TRADE\_HISTORY

+ regex : String

TRADE\_LIST

BACK

BACK

POUR\_OIL

SUCCESS X\_OUT\_OF\_BOUNDS Y\_OUT\_OF\_BOUNDS INVALID\_TYPE INAPPROPRITE\_TEXTURE CELL\_IS\_FULL CELL\_IS\_EMPTY OPPONENT\_BUILDING INVALID\_NUMBER INSUFFICIENT\_STORAGE NOT\_ENOUGH\_CROWD INSUFFICIENT\_STONE OPPONENT\_SOLDIER\_AROUND

<<enumeration>>

BuildingMenuMessages

<<enumeration>>

SUCCESS

INVALID\_NUMBER

<<enumeration>>
UnitMenuCommands SUCCESS X\_OUT\_OF\_BOUNDS Y\_OUT\_OF\_BOUNDS DOESNT\_INCLUDE\_UNIT SET\_UNIT\_MODE NOT\_TRAVERSABLE ATTACK\_ENEMY DISTANCE\_OUT\_OF\_BOUNDS INVALID\_MODE INVALID\_DIRECTION ENGINNER\_REQUIRED INVALID\_TYPE\_OF\_SELECTED\_UNIT BUILD\_SURROUNDING\_EQUIPMENT INSUFFICIENT\_SOURCE INVALID\_EQUIPMENT\_NAME INAPPROPRIATE\_TEXTURE OIL\_SMELTOR\_DOESNT\_EXIST OIL\_SMELTOR\_EMPTY ATTACK\_OPPONENT\_UNIT FILL\_OPPONENT\_DITCH NO\_UNIT\_SELECTED + UnitMenuCommands(regex : String) : << constructor >>

> <<enumeration>> TradeMenuMessages SUCCESS INVALID\_RESOURCE\_TYPE INSUFFIEINT\_RESOURCE\_AMOUNT INVALID\_AMOUNT INVALID\_PRICE

+ TradeMenuCommands(regex : String) : << constructor >> + getMatcher(input : String , regex : ProfileMenuCommands) : Matcher

+ getMatcher(input : String , regex : ProfileMenuCommands) : Matcher

<<enumeration>> TradeMenuCommands

<<enumeration>>
ShopMenuCommands SHOW\_PRICE\_LIST BUY\_ITEM SELL\_ITEM BACK + regex : String + ShopMenuCommands(regex : String) : << constructor >> + getMatcher(input : String , regex : ProfileMenuCommands) : Matcher

ID\_DOESNT\_EXISTS

<<enumeration>> ShopMenuMessages SUCCESS INVALID\_ITEM\_NAME ITEM\_DOESNT\_EXISTS INVALID\_ITEM\_AMOUNT NOT\_ENOUGH\_COIN NOT\_ENOUGH\_SPACE