University of Hertfordshire

School of Computer Science

BSc Computer Science (Software Engineering)

Module: OBJECT ORIENTED DEVELOPMENT

#### **Tournament of Champions - TOC Part 1**

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Level : 6

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**TASK 0.1 : Interface design :**

/\*\*

\* This class implements the behaviour expected from a TOC

\* system as required for 6COM1037 - Nov 2018

\* version : 2.0

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\*/

public interface TOC

{

/\* Returns a String representation of the state of the challenge,

\* including the name of the Champion, state of the treasury,

\* whether defeated or not, and the Champions currently in the

\* Challenge,(or, "No Champions" if Challenge is empty)

\* @parameter no parameter

\*@Return returns a String

\*/

public String toString();

/\*returns the name of the player as a string

\*@parameter int Playername is a variable for method getPlayerName

\*@return returns a String \*/

public String getPlayerName(int Playername);

/\*return the amount of gulden left in the treasury in real time

\*@parameter int gulden is a variable for method getGulden

\*@return returns a String \*/

public String getGulden(int gulden);

/\*returns string of all the champions that are available to be added to the team

\*@parameter no parameter

\*@return returns a String \*/

public String listallChampionsForHire();

/\*Removes a champion from the team

\*@parameter Champion champion is a variable for method dismissChampion

\*@return returns a boolean value \*/

public boolean dismissChampion(Champion champion) ;

/\*restores a removed champion to a team if available

\*@parameter Champion champion is a variable for method restoreChampion

\*@return returns a boolean value\*/

public boolean restoreChampion(Champion champion);

/\*returns a String of all the champions within the created team .

\*@parameter no parameter

\*@return returns a string \*/

public String getTeam();

/\*return true if a champion is in the team and returns false if a

\*champion is not

\*@parameter Champion champion is a variable for method isinteam

\*@return returns a boolean value \*/

public boolean isInteam(Champion champion);

/\*returns the rewards in gulden received by winning

\*@parameter int gulden is a variable for method getreward

\*@return returns a integer value \*/

public int getreward(int gulden);

/\*return a list of players in a current tournament

\*@parameter no parameter

\*@return returns a String \*/

public String displayPlayerlist();

/\*return false if a challenge is lost

\*@parameter no parameter

\*@return returns a boolean value \*/

public boolean hasLost();

/\*return true if there is an ongoing challenge .

\*@parameter int num is a variable for method isChallenge

\*@return returns a boolean value \*/

public boolean isChallenge(int num);

/\*Begins a challenge with a string representation

\*@parameter int challNo is a variable for method meetChallenge

\*@return returns a String\*/

public String meetChallenge(int challNo);

/\*returns the current state of a challenge .

\*@parameter int num is a variable for method getChallenge

\*@return returns a String \*/

public String getChallenge(int num);

/\* returns a list of all the possible challenges

\*@parameter no parameter

\*@return returns a String \*/

public String getAllChallenges();

/\*to save the game at any given time .

\*@parameter String filename is a variable for method saveGame

\*@return no return \*/

public void saveGame(String filename);

/\*to restore the game from the last saved point

\*@parameter String filename is a variable for method restoreGame

\*@return returns game \*/

public Game restoreGame(String filename);

}

**Task 0.2 : Classes and fields :**

|  |  |  |
| --- | --- | --- |
| **Classes :** | **Data type :** | **Fields :** |
| Champions | String | name |
| int | SkillLevel |
| double | EntryFee |
| String | State |
| Boolean | Alive |
| ChampionWeapon(enum) | String Weapon; | Weapon |
| ChampionSpellSpeciality(enum) | String | SpellSpeciality |
| Warrior (subclass ) | ChampionWeapon | Weapon |
| String | name(inherited) |
| int | SkillLevel(inherited) |
| double | EntryFee(inherited) |
| Wizard (subclass) | boolean | necromancer |
| ChampionSpellSpeciality | SpellS |
| String | name(inherited) |
| int | SkillLevel(inherited) |
| double | EntryFee(inherited) |
| Dragon (subclass) | boolean | Talks |
| String | name(inherited) |
| int | SkillLevel(inherited) |
| double | EntryFee(inherited) |
| Challenges | int | ChallengeNO |
| ChallengeType | Type |
| int | Reward |
| int | SkillRequired |
| String | Enemy |
| ChallengeType(enum) | String | ChallengeType |
| Currency | Int | Gulden |
| Players | String | PlayersName |
| Int | Gulden(inherited) |
| String | Team |
| String | PlayerState |