

# CPSC 304 Project Cover Page

Milestone #: \_\_\_\_4\_\_\_\_

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Group Number: \_\_\_\_99\_\_\_\_

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By typing our names and student numbers in the above table, we certify that the work in the attached assignment was performed solely by those whose names and student IDs are included above. (In the case of Project Milestone 0, the main purpose of this page is for you to let us know your e-mail address, and then let us assign you to a TA for your project supervisor.)

In addition, we indicate that we are fully aware of the rules and consequences of plagiarism, as set forth by the Department of Computer Science and the University of British Columbia

# Milestone 4

Repository Link: [https://github.students.cs.ubc.ca/CPSC304-2022W-T1/project\\_b8o5r\\_d8t2c\\_e3x7g](https://github.students.cs.ubc.ca/CPSC304-2022W-T1/project_b8o5r_d8t2c_e3x7g)

Link to webpage for demo:

<https://www.students.cs.ubc.ca/~xiaorang/cpsc304/index.php>

## Project Description

As we proposed, this project is to store, display, analysis the league of legend championship information database. The web page can now show the information about the championship, including team, coach, play, champion, championship, and record for each match. Also, will built-in filter, user can find the information they want more quickly. Also, GUI provide interface for user to manipulate the database including insert new data, delete data, and update data.

## Schema

### Schema update:

Relation match has been removed as information is now kept with in record entity.

PlayerContract and CoachContract are divided into two table for BCNF.

## Schema

### Entities

Team(Team\_name, region) (region can not be null)

```
SQL> select * from Team;
```

TEAMNAME	REG
TES	LPL
JDG	LPL
EDG	LPL
GENG	LCK
DRX	LCK
T1	LCK
DK	LCK
G2	LEC
RGE	LEC
MAD	LEC
FNC	LEC

TEAMNAME	REG
100T	LCS
C9	LCS
EG	LCS
CFR	PCS
BYG	PCS
SGB	VCS
GAM	VCS
DFM	LJL
ISG	LLA
LLL	CBL
IW	TCL

TEAMNAME	REG
CHF	LCO
IG	LPL
RNG	LPL

```
25 rows selected.
```

Coach(Coach\_name)

```

RaT
COACHNAME
-----
Reapered
Ren
Rigby
Robogod
SSONG
Score
Sin
Tabe
Tran
Ukkyr
Xiaobai

COACHNAME
-----
YamatoCannon
fredy122

35 rows selected.

```

Player(Player\_id)

```

Wei
Wunder

PLAYERID
-----
XiaoHu
Yagao
Yaharong
Yutapon
Zeka
Zeus
Zven
caPs
huhi
tinowns

```

Championship(Championship\_Season, championship\_name, **Team\_name**, Bonus)  
(bonus must be unique)

CHAMPIONSHIPSEASON		
CHAMPIONSHIPNAME	TEAMNAME	BONUS
S12 WorldChampionship		1
S12 Mid-Season Invitational		2
S11 WorldChampionship		3
CHAMPIONSHIPSEASON		
CHAMPIONSHIPNAME	TEAMNAME	BONUS
S11 LPL summer		5

Record(Record\_id, Championship\_season, Championship\_name)

RECORDID CHAMPIONSHIPSEASON		
CHAMPIONSHIPNAME	TEAMNAME	WINNER
97 S12 WorldChampionship	T1	DRX
98 S12 WorldChampionship	DRX	T1
99 S12 WorldChampionship	T1	DRX
RECORDID CHAMPIONSHIPSEASON		
CHAMPIONSHIPNAME	TEAMNAME	WINNER
100 S12 WorldChampionship	T1	DRX

94 rows selected.

Champion(Name, main lane)

Morgana	sup
CHAMPIONNAME	MAINLANE
Rakan	sup
Amumu	sup
Rei	sup
Senna	sup
Seraphine	sup
Leona	sup
Alistar	sup
Braum	sup
162 rows selected.	

ChampionSkill(skill name, **Champion\_name**)

RECKLESS SWING	Olaf
RAGNAROK	Olaf
DEATH SENTENCE	Thresh
DARK PASSAGE	Thresh
FLAY	Thresh
SKILLNAME	CHAMPIONNAME
THE BOX	Thresh
PIERCING ARROW	Varus
BLIGHTED QUIVER	Varus
HAIL OF ARROWS	Varus
CHAIN OF CORRUPTION	Varus
236 rows selected.	

DamageSkill(skill name, **Champion\_name**, damage amount)

SKILLNAME	CHAMPIONNAME
DAMAGEAMOUNT	
COLLATERAL DAMAGE 15000	Graves
SIGIL OF MALICE 13000	LeBlanc
DISTORTION 15000	LeBlanc
12 rows selected.	

ControlSkill(skill name, **Champion\_name**, control effect, control time)

SKILLNAME	CHAMPIONNAME
CONTROLEFFECT	
CONTROLTIME	
1	
DEPTH CHARGE	Nautilus
Nautilus fires a shockwave into the earth that chases an opponent. This shockwave rips up the earth above it, knocking enemies into the air. When it reaches the	
SKILLNAME	CHAMPIONNAME
CONTROLEFFECT	
CONTROLTIME	
opponent, the shockwave erupts, knocking his target into the air and stunning them.	

SupportSkill(skill name, Champion\_name, heal, shield)

SKILLNAME	CHAMPIONNAME
HEAL	
SHIELD	
DARK PASSAGE	Thresh
0	200
ZOOMIES	Yuumi
200	400

## Relations

Coach Contract1(Team\_name, Coach\_Name, Coaching\_season, role)

LLL S12	Escalante	head coach
IW S12	Robogod	head coach
TEAMNAME	COACHNAME	
COACHINGSEASON	COACHROLE	
CHF S12	Cuden	head coach

Coach Contract2(role, coach\_salary)

COACHROLE	COACHSALARY
head coach	1000000
assistant coach	200000
leader	500000
manager	1200000
analyst	600000

Player Contract1(Team\_name, Player\_ID, Contract\_season, Lane, tier) (tier can not be null)

Raes S12	CHF bot	4
PLAYERID	TEAMNAME	
CONTRACTSEASON	LAN	TIER
Dragku S12	CHF sup	5
91 rows selected.		

Player Contract2(tier, Contract\_Fee) (tier can not be null)



TIER	CONTRACTFEE
1	5000000
2	1000000
3	500000
4	200000
5	100000

Pick(Player\_ID, Champion\_name, record\_id, Championship\_season, Championship\_name, KDA, total\_damage, lane)

PLAYERID	CHAMPIONNAME
RECORDID	CHAMPIONSHIPSEASON
CHAMPIONSHIPNAME	KDA
TOTALDAMAGE	LAN
Keria	Karma
98 S12	11.0
WorldChampionship	
12164 sup	
123 rows selected.	

Ban(Coach\_name, Champion\_name, record\_id, Championship\_season, Championship\_name, choice\_number, ban\_rate) (choice\_number can not be null)

SSONG	Graves
96 S12	
WorldChampionship	5 .141
COACHNAME	CHAMPIONNAME
RECORDID	CHAMPIONSHIPSEASON
CHAMPIONSHIPNAME	CHOICENUMBER BANRATE
Bengi	Rel
96 S12	
WorldChampionship	2 .047
157 rows selected.	

# Query Used in project

## Insert

```
function addToDB($table, $val1, $val2, $val3, $val4, $val5)

    global $db_conn;
    $plainSQL = "";
    if (connectToDB()) {
        switch ($table) {
            case "Team":
                $plainSQL = "INSERT into " . $table . " values('" . $val1 . "','" . $val2 . "')";
                break;
            case "Player":
                $plainSQL = "INSERT into " . $table . " values('" . $val1 . "')";
                break;
            case "Coach":
                $plainSQL = "INSERT into " . $table . " values('" . $val1 . "')";
                break;
            case "Champion":
                $plainSQL = "INSERT into " . $table . " values('" . $val1 . "','" . $val2 . "')";
                break;
            case "Championship":
                $plainSQL = "INSERT into " . $table . " values('" . $val1 . "','" . $val2 . "','" . $val3 . "')";
                break;
            case "Record":
                $plainSQL = "INSERT into " . $table . " values('" . $val1 . "','" . $val2 . "','" . $val3 . "','" . $val4 . "','" . $val5 . "')";
                break;
            default:
                break;
        }
        if (executePlainSQL($plainSQL)) {
            OCICommit($db_conn);
            echo $val1 . ' has ben added to data base';
        } else {
            echo "Fail to add";
        }
    }
    disconnectFromDB();
}
```

before insert

TES	LPL
JGG	LPL
EDG	LPL
IG	LPL
RNG	LPL
Insert Team	
Team Name: <input type="text" value="input team name Ex. G2"/>	
Team Region: <input type="text" value="input team region Ex. LC"/>	
<input type="button" value="insertTeam"/>	

after insert (dummy2, LPL)

FILTER <input type="button" value="ALL"/> <input type="button" value="CBL"/> <input type="button" value="LPL"/> <input type="button" value="LCK"/> <input type="button" value="LEC"/> <input type="button" value="LCS"/> <input type="button" value="VCS"/> <input type="button" value="LTA"/> <input type="button" value="PCS"/> <input type="button" value="LJL"/> <input type="button" value="TCL"/> <input type="button" value="LEC"/>	
JGG	LPL
EDG	LPL
dummy2	LPL
IG	LPL
RNG	LPL
Insert Team	
Team Name: <input type="text" value="input team name Ex. G2"/>	
Team Region: <input type="text" value="input team region Ex. LC"/>	
<input type="button" value="insertTeam"/>	

## Delete

```
// echo $2 ,
$plainSQL = "DELETE from " . $table . " WHERE TEAMNAME='" . $val1 . "'";
```

before delete

Team	Player	Coach	Champion	Championship
FILTER <input type="button" value="ALL"/> <input type="button" value="mid"/> <input type="button" value="top"/> <input type="button" value="jungle"/> <input type="button" value="bot"/> <input type="button" value="sup"/>				
Champlon		Mainlane		
Asdfex		top		
Flora		top		
Camilla		top		

after delete aatrox

Team		Player	Coach	Champion	Championship
ALL	mid	top	jungle	bot	sup
Champion				Mainlane	
Fiora				top	
Camille				top	
Baron				top	

## UPDATE

```
if(connectToDB()){
    executePlainSQL("UPDATE Record SET
    TEAMNAME ='" . $_POST['championshipRecordTeam'] . "', WINNER ='" . $_POST['Winner'] . "'
    WHERE CHAMPIONSHIPNAME='" . $_POST['championshipRecordName'] . "'
    AND CHAMPIONSHIPSEASON='" . $_POST['championshipRecordSeason'] . "'
    AND RECORDID='" . $_POST['recordID'] . "'");
    OCICommit($db_conn);
}
```

before update

Championship	Season	Record ID	Loser Team	Winner Team
WorldChampionship	202	1	MSI	NaAD

after update (two teams)

Championship	Season	Record ID	Loser Team	Winner Team
WorldChampionship	202	1	TES	JON

## Selection

```
$result = executePlainSQL("SELECT * FROM " . $table);
```

select shows all teams

**League of Legend Info Board**

Team
Player
Coach
Champion
Championship

FILTER ALL CBL LPL LCK LEC LCS VCS LLA PCS LJL TCL LCU

Team	Region
TLS	LPL
JDG	LPL
EDG	LPL
GENG	LCK
SKT	LCK

**Insert Team**

Team Name:

Team Region:

## Projection

```
$result = executePlainSQL("SELECT * FROM " . $table . " WHERE " . $mode . "='" . $value . "'")
```

projection for only LCK teams

**League of Legend Info Board**

Team
Player
Coach
Champion
Championship

FILTER ALL CBL LPL LCK LEC LCS VCS LLA PCS LJL TCL LCU

Team	Region
GENG	LCK
DRX	LCK
T1	LCK
DK	LCK

## Join

```
$result = executePlainSQL("select CoachContract1.coachName, CoachContract1.coachRole,
CoachContract2.coachSalary, CoachContract1.coachingSeason
from CoachContract1
inner join CoachContract2 on CoachContract1.coachRole = CoachContract2.coachRole
where CoachContract1.teamName = '" . $team . "'");
```

join shows the coach salary information

```
Coach Team:
head coach : Homme
Season: S12 Salary: 1000000
```

## Aggregation with Group by

```
echo 'Team Contract :>' ;
$result = executePlainSQL("select playerID, COUNT(CONTRACTSEASON) from PlayerContract1 where TEAMNAME = '". $team.
"' group by playerID having COUNT(CONTRACTSEASON)>0");
while($row = oci_fetch_array($result,OCI_BOTH)){
    echo 'Player: '.$row[0].' has been played for this team for '.$row[1].' contract period<br>';
}
```

GUI output

```
Player: Jackeylove has been played for this team for 1 contract period
```

## Aggregation with Having

```
$result = executePlainSQL("select COACHNAME from CoachContract1 where TEAMNAME = '". $team.
"' group by COACHNAME having COUNT(COACHINGSEASON)>0");
while($row = oci_fetch_array($result,OCI_BOTH)){
    echo 'Coach: '.$row[0].' has coached team over 1 contract period<br>';
}
```

GUI output

```
Coach: Homme has coached team over 1 contract period
```

## Nested Aggregation with Group by

```
echo 'Highlighted Time: <br>';
$result = executePlainSQL("select championshipSeason, avg(kda) from Pick where playerID = '". $player. "'
group by championshipSeason
having avg(kda) >= (select avg(kda) from Pick
where playerID = '". $player. "')");
while($row = oci_fetch_array($result,OCI_BOTH)){
    echo 'At season '.$row[0].', '.$player.' plays great with an average kda: '.$row[1].<br>';
}
```

GUI output

Highlighted Time:  
At season S12 , 369 plays great with an average kda: 1.85

## Division

```
$result= executePlainSQL("select distinct championshipSeason from Championship where not exists  
    (select distinct championshipSeason from Record  
    where not exists (select championshipSeason from Record where  
        Record.winner = '". $team.'" or Record.teamName = '". $team.'"))");  
while($row=oci_fetch_array($result,OCI_BOTH)){  
    echo $row[0].' ';  
}
```

GUI output

Season: S12 Salary: 100000  
This has has been participate in season: S11 S12