Programming OOP Final Project{

[Automatic Volleyball Recorder]

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}

Contents Of Project

- Background and Motivation
- Automatic Recorder for Volleyball
- Framework
- Introduction for Classes and Logic
- WBS
- Network/Timeline
- Teamwork

Background and Motivation{

01 Group Members

< One team manager and three players on the team>

02 Complexity

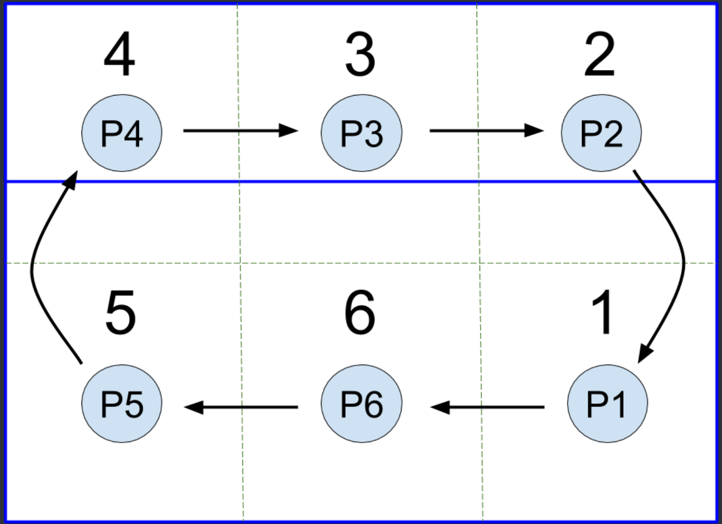
< We found that it’s complicated to record and a lot of procedures>

}

Volleyball.html　Introduction.css

Automatic Recorder for Volleyball{

-> Total scores
-> Personal scores (Block/Serve/Spike)
-> Timeouts
-> Errors
->The rotation order changes by the time



}

Volleyball.html Introduction.css

```
Framework{

    [ ] Players    [ ] Tester    [ ] LoginPage

    [ ] FirstPage  [ ] ScoreManager  [ ] SecondPage

}
```

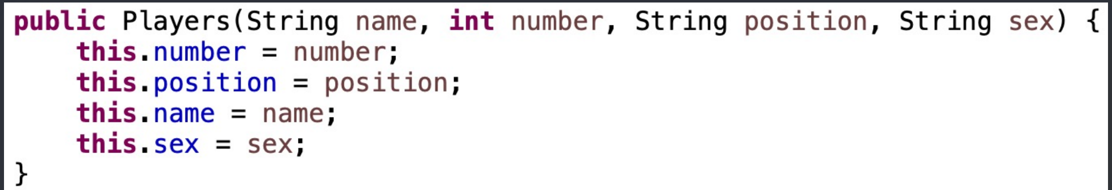
Volleyball.html

Introduction.css

Introduction for Class and Logic{

<Players>

=> To record the basic data of every player.

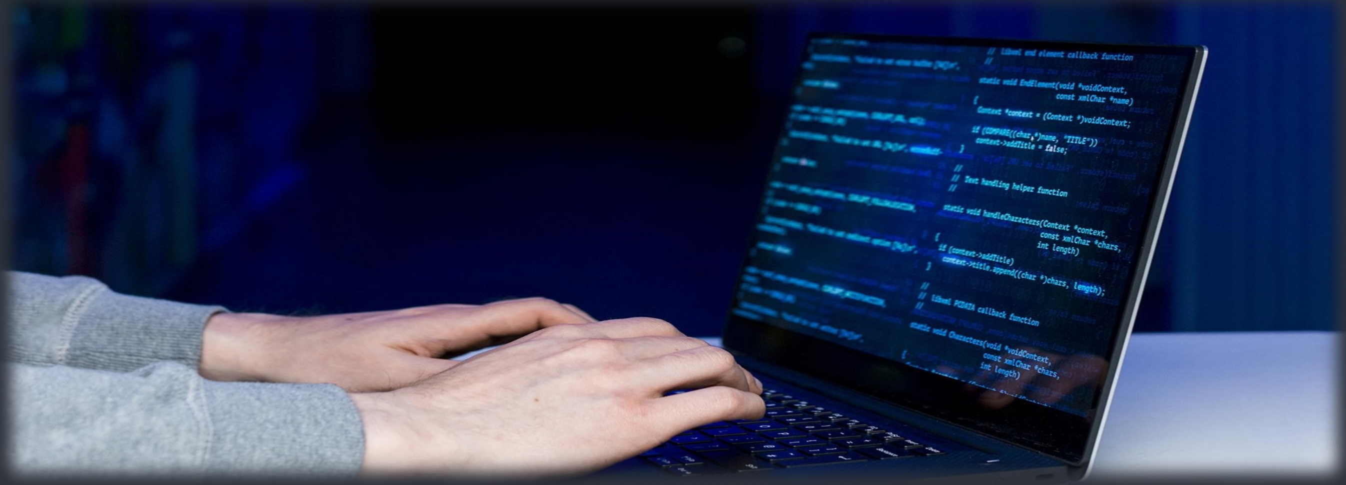


```java
public Players(String name, int number, String position, String sex) {
    this.number = number;
    this.position = position;
    this.name = name;
    this.sex = sex;
}
```

}

Introduction for Class and Logic{

<Tester>



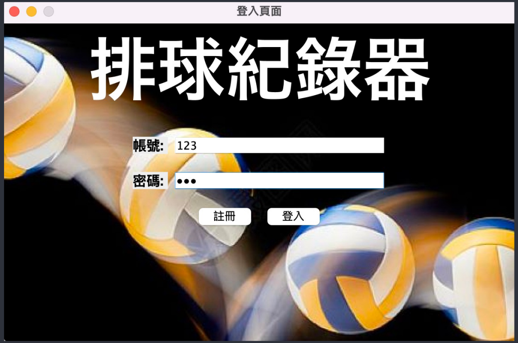
}

“Only purpose: Open the LoginPage”

Introduction for Class and Logic{

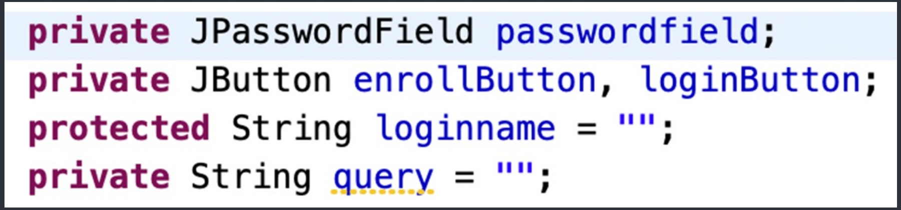
<LoginPage>

"To Present the LoginPage and let users to key in their account and passwords"



帳號: 123

密碼: •••



```
private JPasswordField passwordfield;
private JButton enrollButton, loginButton;
protected String loginname = "";
private String query = "";
```

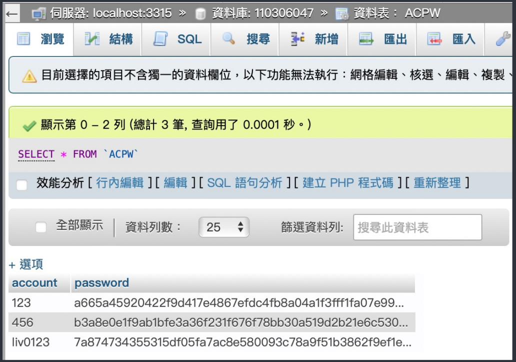
"PasswordField could cover the passwords which makes it safer"

}

Introduction for Class and Logic{

<LoginPage>

“Using SHA-256 to encrypt, upload the ciphertext instead of plaintext”


←
伺服器: localhost:3315 » 資料庫: 110306047 » 資料表： ACPW
瀏覽
結構
SQL
搜尋
新增
匯出
匯入
效能分析 [行內編輯][編輯][SQL 語句分析][建立 PHP 程式碼][重新整理]
□ 全部顯示
資料列數：
篩選資料列:
搜尋此資料表
+ 選項

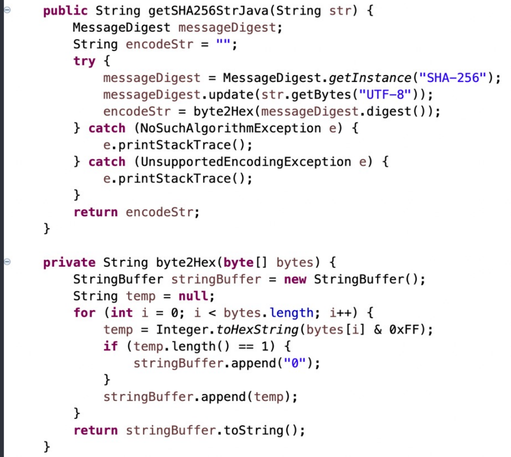
目前選擇的項目不含獨一的資料欄位，以下功能無法執行：網格編輯、核選、編輯、複製、

✓ 顯示第 0 – 2 列 (總計 3 筆, 查詢用了 0.0001 秒。)

```
SELECT * FROM `ACPW`
```

資料列數： 25

account	password
123	a665a45920422f9d417e4867efdc4fb8a04a1f3fff1fa07e99...
456	b3a8e0e1f9ab1bfe3a36f231f676f78bb30a519d2b21e6c530...
liv0123	7a874734355315df05fa7ac8e580093c78a9f51b3862f9ef1e...



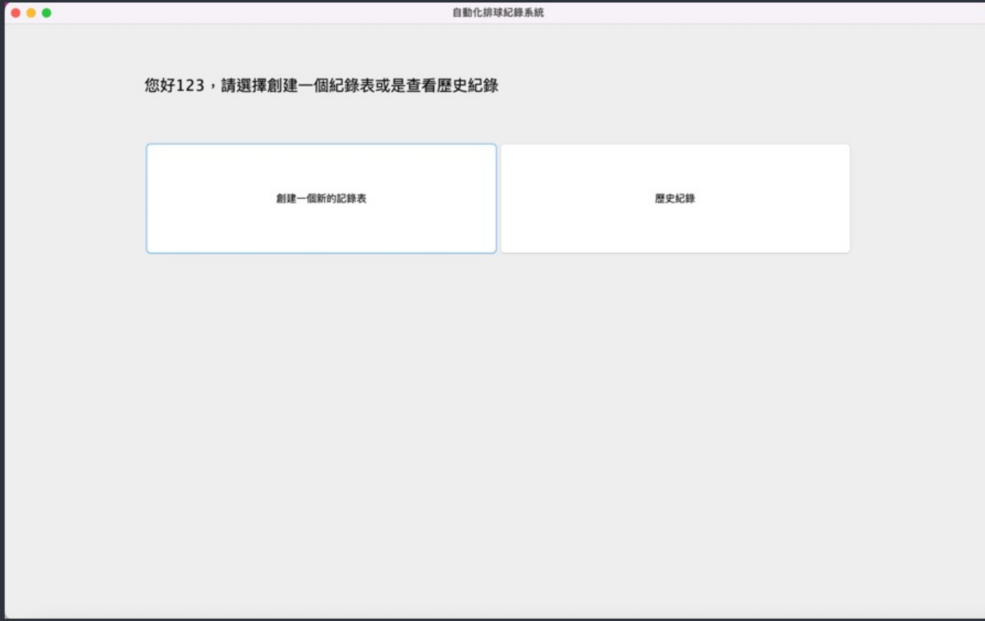
```java
public String getSHA256StrJava(String str) {
    MessageDigest messageDigest;
    String encodeStr = "";
    try {
        messageDigest = MessageDigest.getInstance("SHA-256");
        messageDigest.update(str.getBytes("UTF-8"));
        encodeStr = byte2Hex(messageDigest.digest());
    } catch (NoSuchAlgorithmException e) {
        e.printStackTrace();
    } catch (UnsupportedEncodingException e) {
        e.printStackTrace();
    }
    return encodeStr;
}

private String byte2Hex(byte[] bytes) {
    StringBuffer stringBuffer = new StringBuffer();
    String temp = null;
    for (int i = 0; i < bytes.length; i++) {
        temp = Integer.toHexString(bytes[i] & 0xFF);
        if (temp.length() == 1) {
            stringBuffer.append("0");
        }
        stringBuffer.append(temp);
    }
    return stringBuffer.toString();
}
```

}

Introduction for Class and Logic{

<FirstPage>

“Choose either 查看歷史紀錄 or 創建新的記錄表”



自動化排球紀錄系統

您好123，請選擇創建一個紀錄表或是查看歷史紀錄

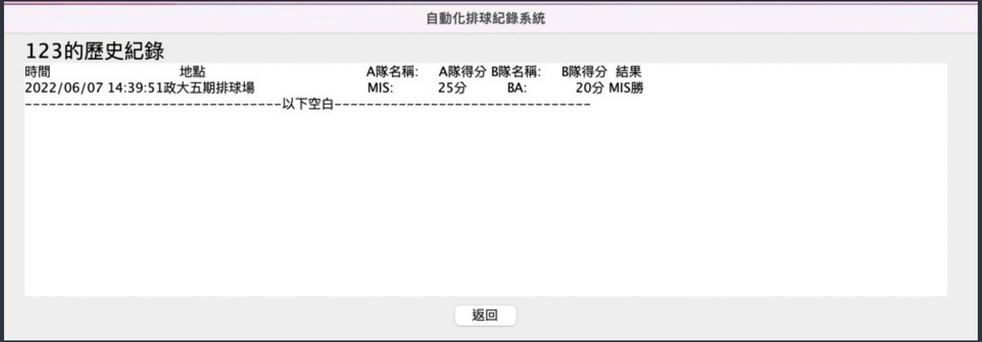
}

Introduction for Class and Logic{

<FirstPage>

“查看歷史紀錄”

“SELECT DATA FROM SQL where account == ’accountname’”



```
123的歷史紀錄
時間                    地點                    A隊名稱:   A隊得分 B隊名稱:   B隊得分  結果
2022/06/07 14:39:51政大五期排球場               MIS:       25分        BA:        20分 MIS勝
--------------------------------以下空白--------------------------------
```

}

Introduction for Class and Logic{

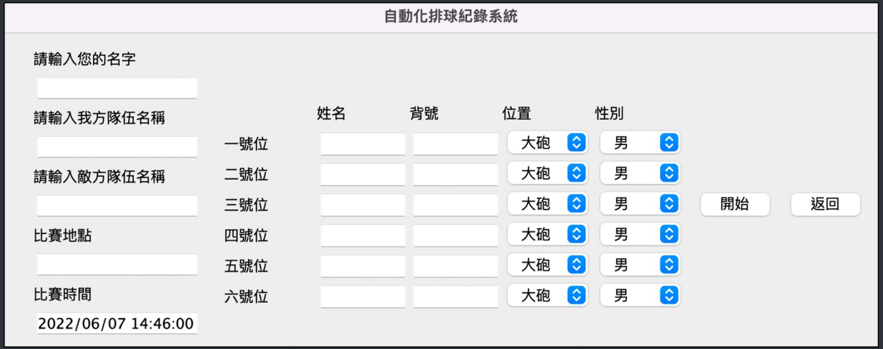
<FirstPage>

“創建新的記錄表”

“key in player‘s data, sex and their locations”

*In order to be used in the Mixed Cup, we added the option of Female

*Using DateTimeFormatter and LocalDateTime.now( ) to get the time



自動化排球紀錄系統

請輸入您的名字

請輸入我方隊伍名稱

請輸入敵方隊伍名稱

比賽地點

比賽時間 2022/06/07 14:46:00

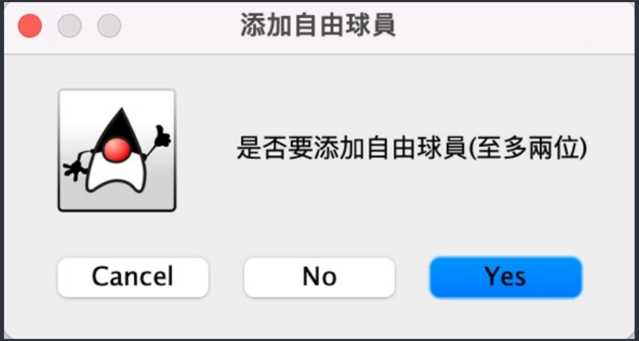
	姓名	背號	位置	性別
一號位			大砲	男
二號位			大砲	男
三號位			大砲	男
四號位			大砲	男
五號位			大砲	男
六號位			大砲	男

}

Introduction for Class and Logic{

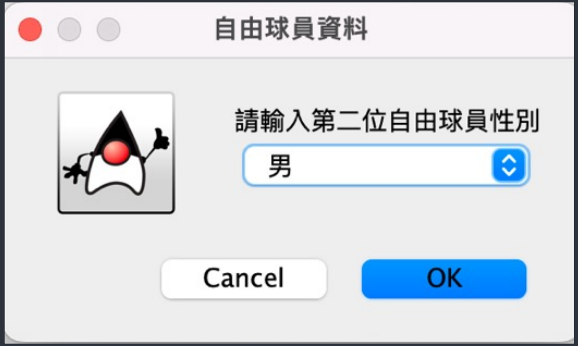
<FirstPage>

“是否加入自由球員及其資料”



添加自由球員

是否要添加自由球員(至多兩位)



自由球員資料

請輸入第二位自由球員性別

男

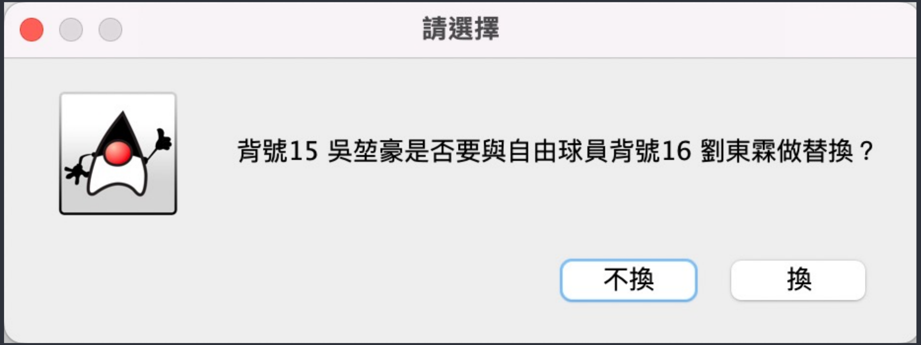
}

Volleyball.html Introduction.css

Introduction for Class and Logic{

<FirstPage>

“The system would detect if there are middleblockers and asks for substitutions”



請選擇

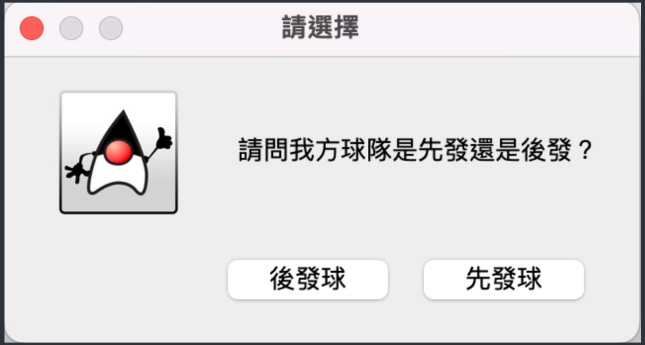
背號15 吳堃豪是否要與自由球員背號16 劉東霖做替換？

}

Introduction for Class and Logic{

<FirstPage>

“To decide the server order which would affect the decoration of the Labels and Logic later”



請選擇

請問我方球隊是先發還是後發？

}

Introduction for Class and Logic{

<ScoreManager>

“Designed to deal with logical and arithmetical issues”

[ ] 判斷輪轉/發球邏輯

[ ] 進行個別球員資料之紀錄
（發球得分、攔網得分、攻擊得分、失誤失分）

[ ] 判斷輸贏邏輯(包括deuce)

[ ] 紀錄總體得分分佈
（我方得分/敵方失誤導致我方得分/我方受迫性失誤失分）

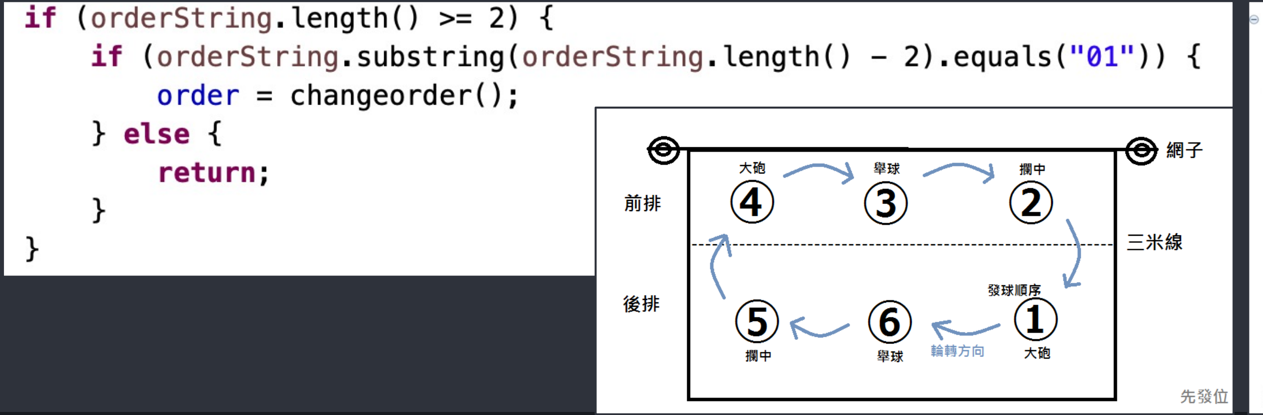
}

Introduction for Class and Logic{

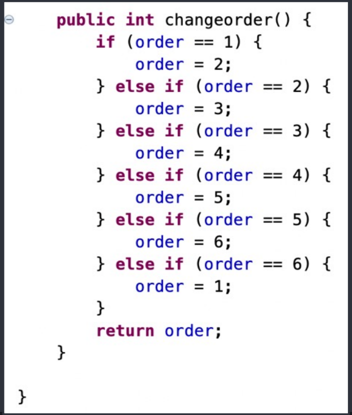
<ScoreManager>

“排球規則：發球員擊球過網進入對區，雙方來回對擊，直至球落地、出界或某隊未能合法將球擊回對區”

“輪轉規則：當我方失分後再次獲得發球權，球員順時針輪轉一個位置”



```
if (orderString.length() >= 2) {
    if (orderString.substring(orderString.length() - 2).equals("01")) {
        order = changeorder();
    } else {
        return;
    }
}
```



```
    public int changeorder() {
        if (order == 1) {
            order = 2;
        } else if (order == 2) {
            order = 3;
        } else if (order == 3) {
            order = 4;
        } else if (order == 4) {
            order = 5;
        } else if (order == 5) {
            order = 6;
        } else if (order == 6) {
            order = 1;
        }
        return order;
    }

}
```

}

Introduction for Class and Logic{

<SecondPage>

“To record data by just clicking them...”

[ ] 自動計分

[ ] 進行輪轉

[ ] 判斷勝負

[ ] 匯出報表(.csv)

}

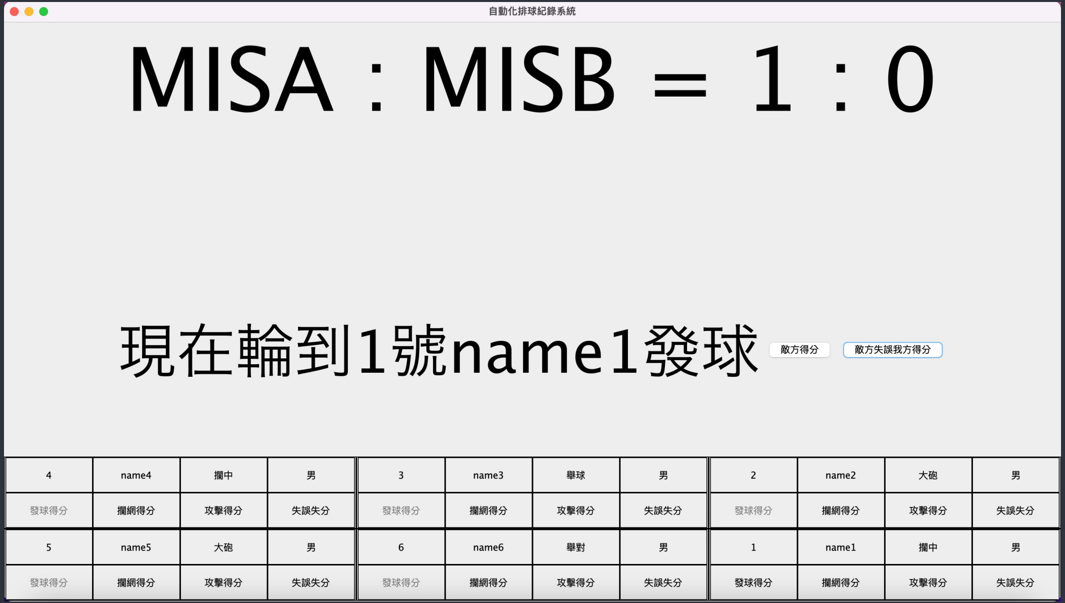
Volleyball.html Introduction.css

Introduction for Class and Logic{

<SecondPage>

“Whole Layout”

}



自動化排球紀錄系統

MISA : MISB = 1 : 0

現在輪到1號name1發球

4	name4	攔中	男	3	name3	舉球	男	2	name2	大砲	男
發球得分	攔網得分	攻擊得分	失誤失分	發球得分	攔網得分	攻擊得分	失誤失分	發球得分	攔網得分	攻擊得分	失誤失分
5	name5	大砲	男	6	name6	舉對	男	1	name1	攔中	男
發球得分	攔網得分	攻擊得分	失誤失分	發球得分	攔網得分	攻擊得分	失誤失分	發球得分	攔網得分	攻擊得分	失誤失分

OOP Final Project 110-2

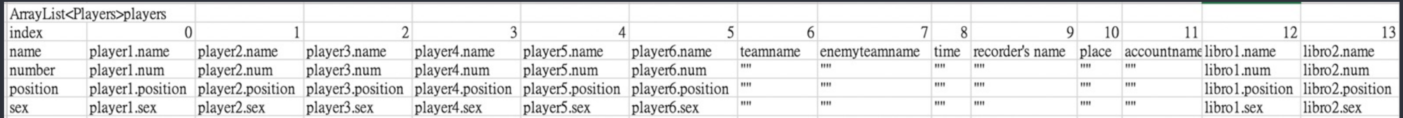
Volleyball.html

Introduction.css

Introduction for Class and Logic{

<SecondPage>

“Using the ArrayList of the FirstPage as the SecondPage’s constructor’s parameter to send infos”



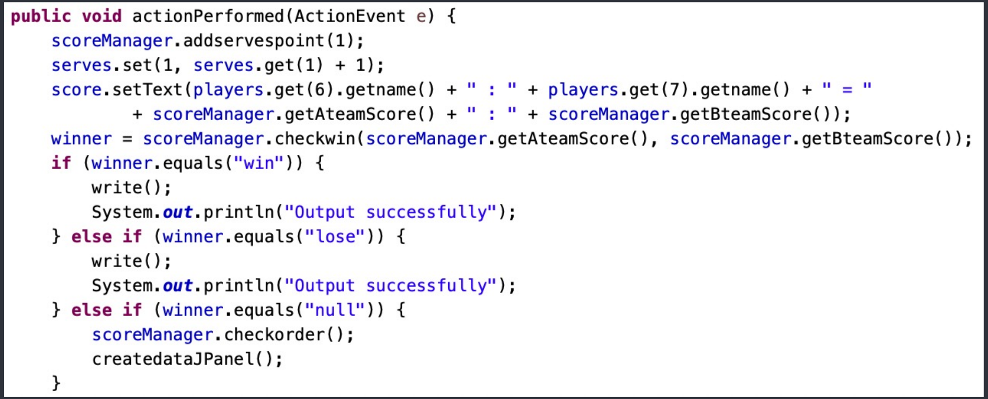
ArrayList<Players>players														
index	0	1	2	3	4	5	6	7	8	9	10	11	12	13
name	player1.name	player2.name	player3.name	player4.name	player5.name	player6.name	teamname	enemyteamname	time	recorder's name	place	accountname	libro1.name	libro2.name
number	player1.num	player2.num	player3.num	player4.num	player5.num	player6.num	""	""	""	""	""	""	libro1.num	libro2.num
position	player1.position	player2.position	player3.position	player4.position	player5.position	player6.position	""	""	""	""	""	""	libro1.position	libro2.position
sex	player1.sex	player2.sex	player3.sex	player4.sex	player5.sex	player6.sex	""	""	""	""	""	""	libro1.sex	libro2.sex

}

Introduction for Class and Logic{

<SecondPage>

“Callback listener”



```
public void actionPerformed(ActionEvent e) {
    scoreManager.addservespoint(1);
    serves.set(1, serves.get(1) + 1);
    score.setText(players.get(6).getname() + " : " + players.get(7).getname() + " = "
            + scoreManager.getAteamScore() + " : " + scoreManager.getBteamScore());
    winner = scoreManager.checkwin(scoreManager.getAteamScore(), scoreManager.getBteamScore());
    if (winner.equals("win")) {
        write();
        System.out.println("Output successfully");
    } else if (winner.equals("lose")) {
        write();
        System.out.println("Output successfully");
    } else if (winner.equals("null")) {
        scoreManager.checkorder();
        createdataJPanel();
    }
```

}

Introduction for Class and Logic{

<SecondPage>

“Callback listener”

01 若為得分則在總得分+1，得分球員個人的資料也會+1(serves的ArrayList, set(number, +1分))

02 加分後重新載入計分板

03 確認輪轉，重新繪製底下的輪轉圖

04 判別勝負

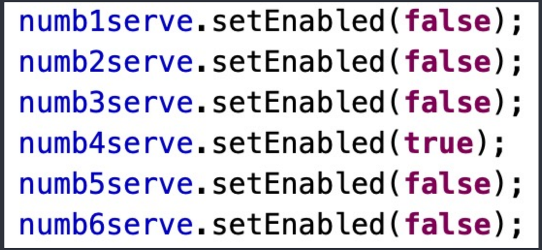
05 若比賽結束，進行輸出(write())

}

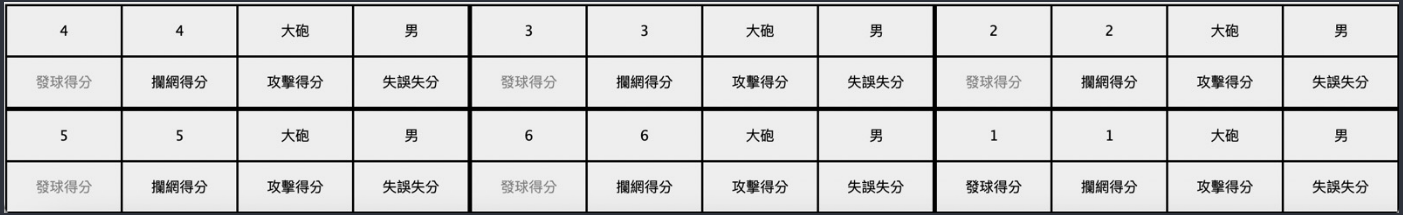
Introduction for Class and Logic{

<SecondPage>

“若為敵方發球，我方得分按鈕關閉”
“若為我方球，非發球者之得分按鈕關閉”
“當自由球員在後排，其攔網得分按鈕關閉”



```
numb1serve.setEnabled(false);
numb2serve.setEnabled(false);
numb3serve.setEnabled(false);
numb4serve.setEnabled(true);
numb5serve.setEnabled(false);
numb6serve.setEnabled(false);
```



4	4	大砲	男	3	3	大砲	男	2	2	大砲	男
發球得分	攔網得分	攻擊得分	失誤失分	發球得分	攔網得分	攻擊得分	失誤失分	發球得分	攔網得分	攻擊得分	失誤失分
5	5	大砲	男	6	6	大砲	男	1	1	大砲	男
發球得分	攔網得分	攻擊得分	失誤失分	發球得分	攔網得分	攻擊得分	失誤失分	發球得分	攔網得分	攻擊得分	失誤失分

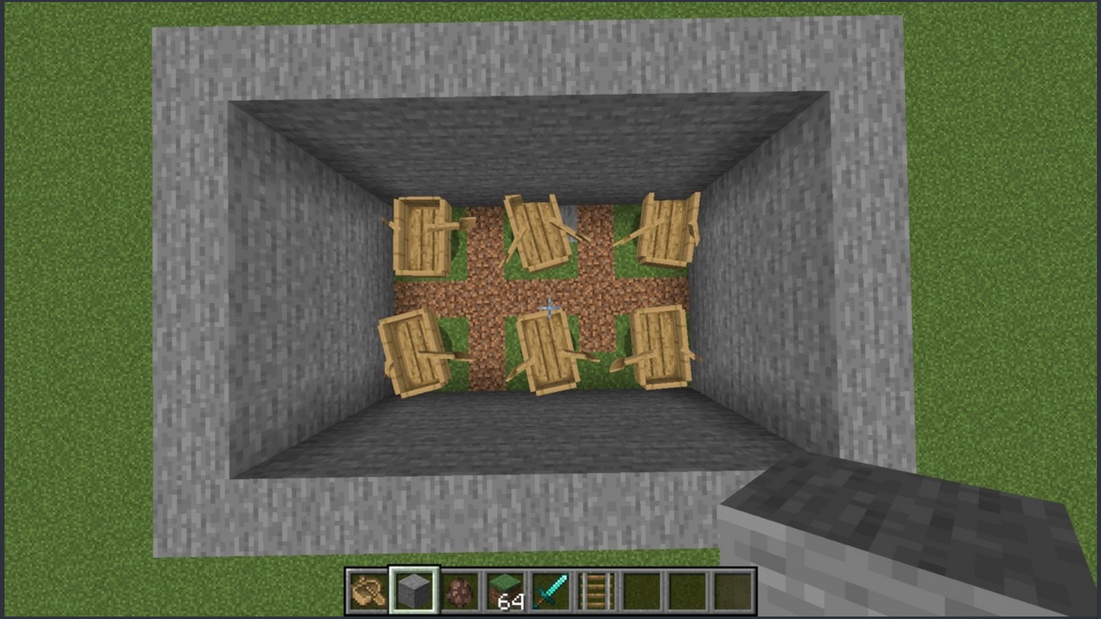
}

Introduction for Class and Logic{

<SecondPage>

“Using carriers to move the players and redraw the whole GUI”

“Imagine moving the boats in Minecraft...”

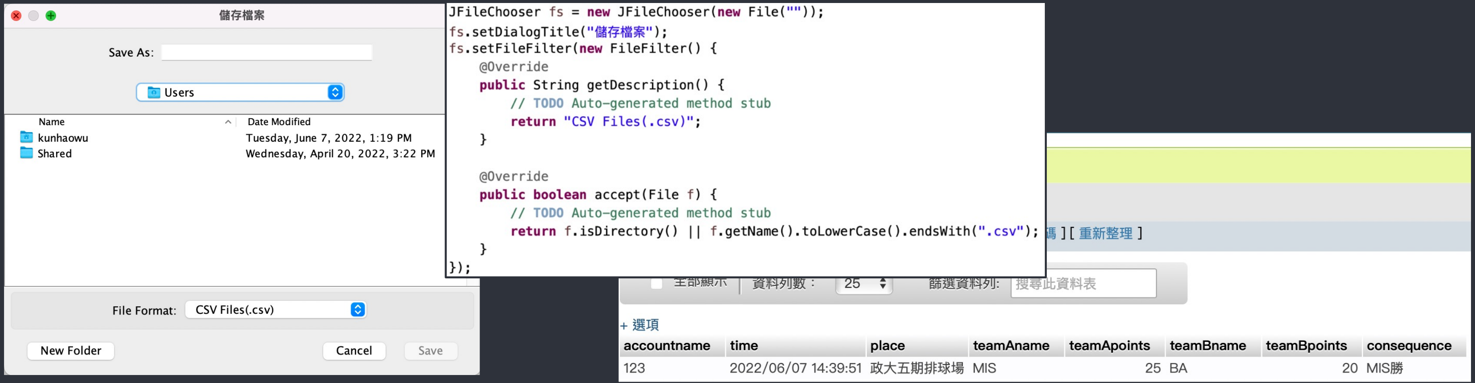


}

Introduction for Class and Logic{

<SecondPage>

“Using JFlieChooser to output .csv files and upload to SQL at the same time”



Name	Date Modified
kunhaowu	Tuesday, June 7, 2022, 1:19 PM
Shared	Wednesday, April 20, 2022, 3:22 PM

```
JFileChooser fs = new JFileChooser(new File(""));
fs.setDialogTitle("儲存檔案");
fs.setFileFilter(new FileFilter() {
    @Override
    public String getDescription() {
        // TODO Auto-generated method stub
        return "CSV Files(.csv)";
    }

    @Override
    public boolean accept(File f) {
        // TODO Auto-generated method stub
        return f.isDirectory() || f.getName().toLowerCase().endsWith(".csv");
    }
});
```

accountname	time	place	teamAname	teamApoints	teamBname	teamBpoints	consequence
123	2022/06/07 14:39:51	政大五期排球場	MIS	25	BA	20	MIS勝

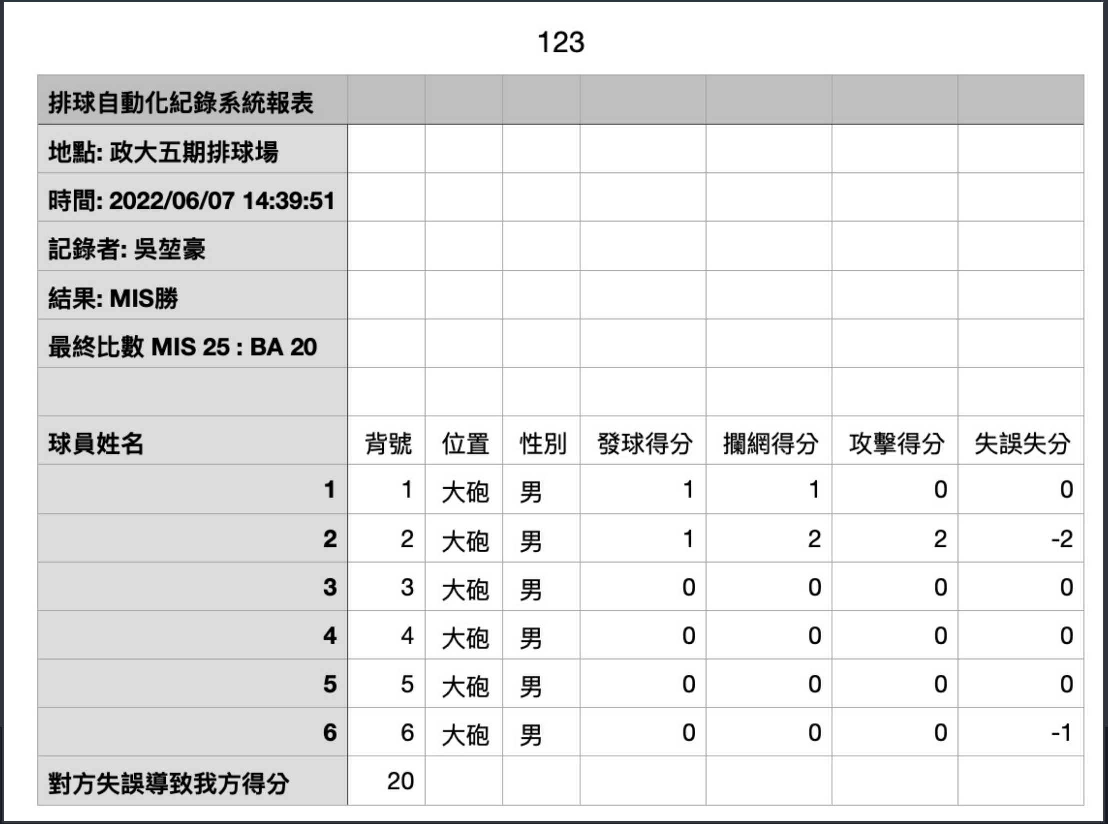
}

Introduction for Class and Logic{

<SecondPage>

“How’s the output”

123.csv



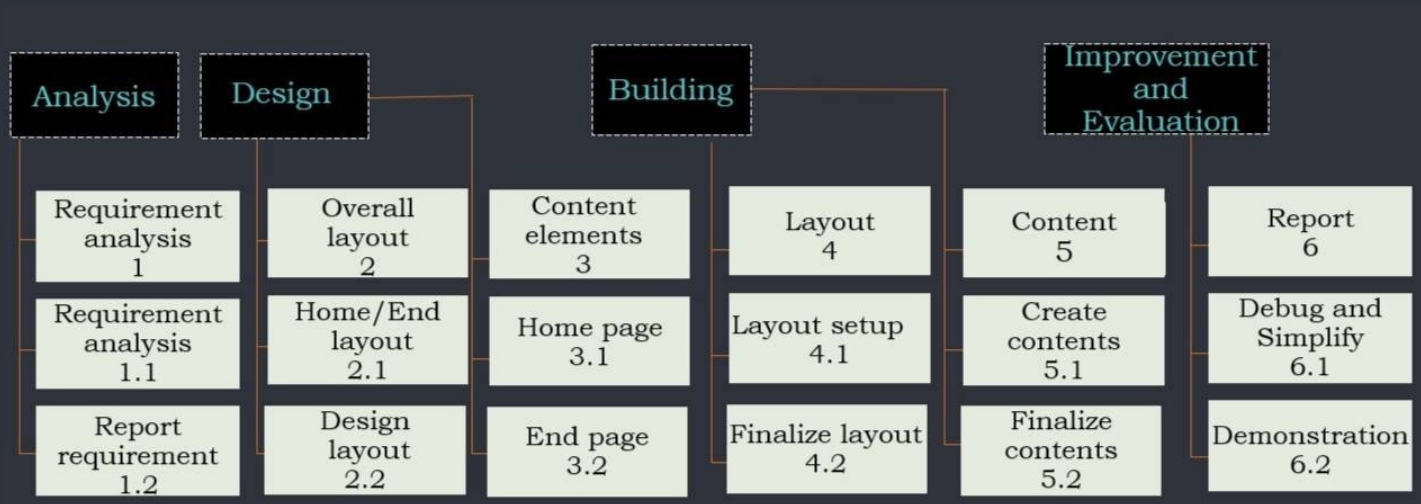
123

排球自動化紀錄系統報表								
地點: 政大五期排球場								
時間: 2022/06/07 14:39:51								
記錄者: 吳堃豪								
結果: MIS勝								
最終比數 MIS 25 : BA 20								
球員姓名	背號	位置	性別	發球得分	攔網得分	攻擊得分	失誤失分
1	1	大砲	男	1	1	0	0
2	2	大砲	男	1	2	2	-2
3	3	大砲	男	0	0	0	0
4	4	大砲	男	0	0	0	0
5	5	大砲	男	0	0	0	0
6	6	大砲	男	0	0	0	-1
對方失誤導致我方得分	20						

}

WBS{

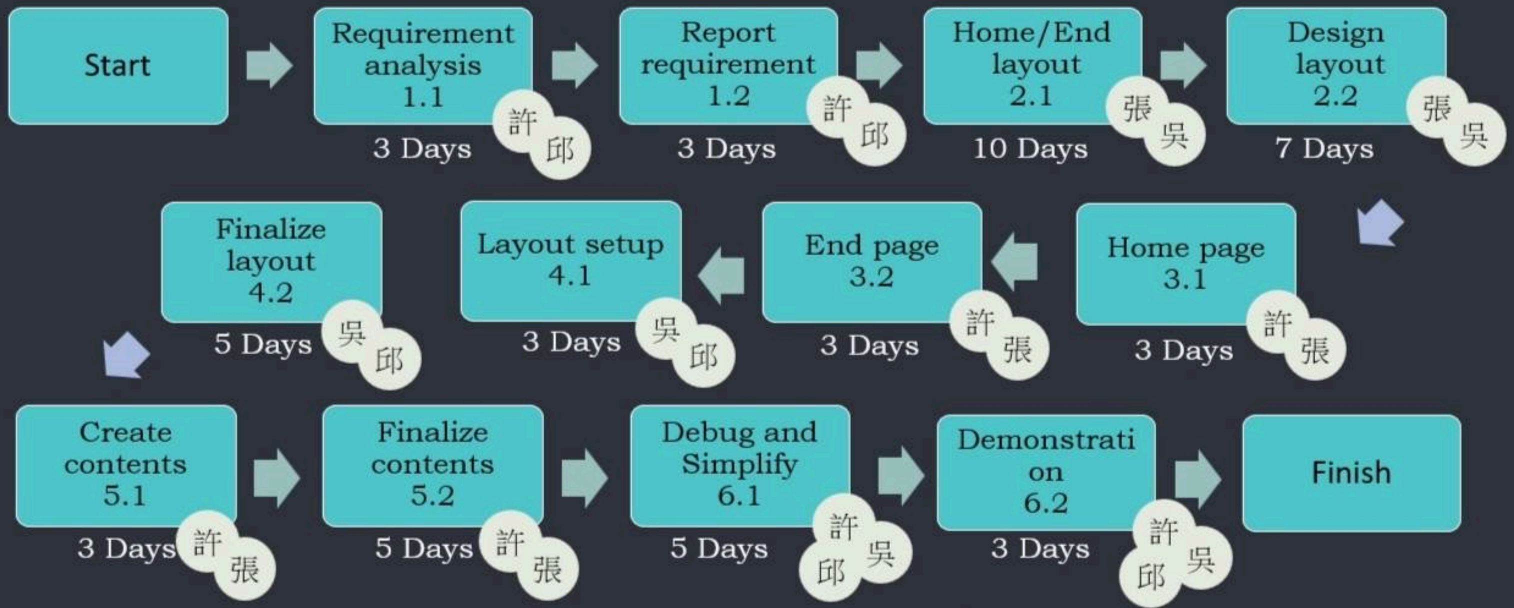
Automatic Recorder for Volleyball



- Analysis
  - Requirement analysis 1
  - Requirement analysis 1.1
  - Report requirement 1.2
- Design
  - Overall layout 2
  - Home/End layout 2.1
  - Design layout 2.2
  - Content elements 3
  - Home page 3.1
  - End page 3.2
- Building
  - Layout 4
  - Layout setup 4.1
  - Finalize layout 4.2
  - Content 5
  - Create contents 5.1
  - Finalize contents 5.2
- Improvement and Evaluation
  - Report 6
  - Debug and Simplify 6.1
  - Demonstration 6.2

}

Task Network/Timeline{



Start

Requirement analysis 1.1
3 Days
許 邱

Report requirement 1.2
3 Days
許 邱

Home/End layout 2.1
10 Days
張 吳

Design layout 2.2
7 Days
張 吳

Home page 3.1
3 Days
許 張

End page 3.2
3 Days
許 張

Layout setup 4.1
3 Days
吳 邱

Finalize layout 4.2
5 Days
吳 邱

Create contents 5.1
3 Days
許 張

Finalize contents 5.2
5 Days
許 張

Debug and Simplify 6.1
5 Days
許 吳 邱

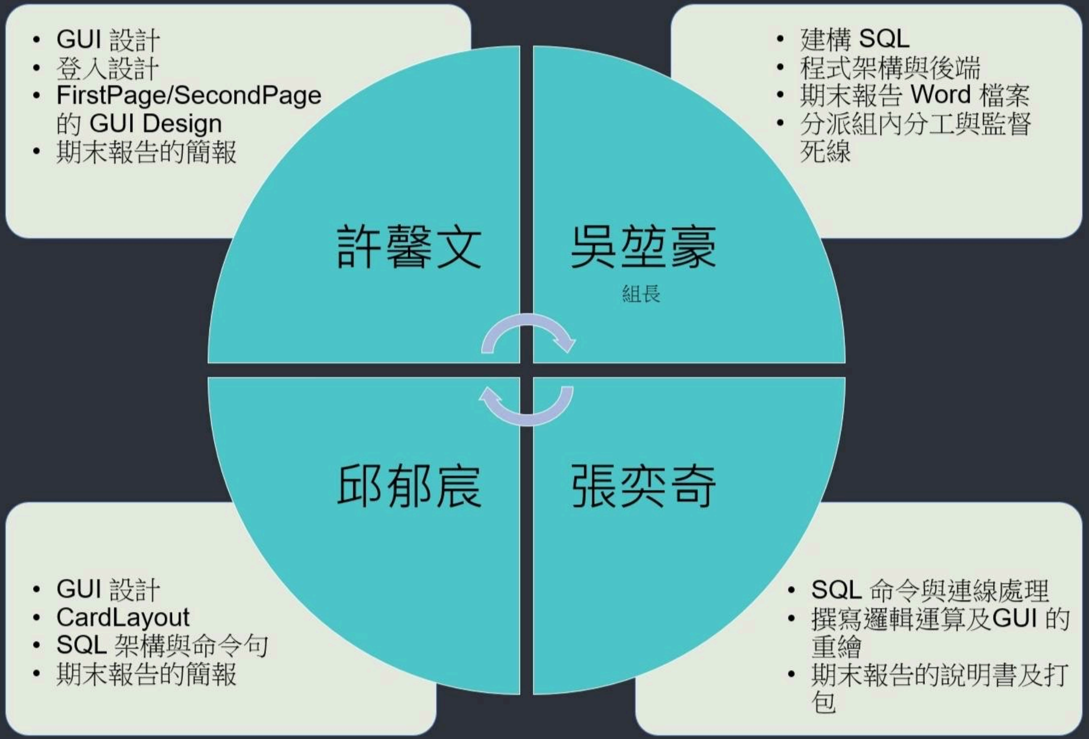
Demonstrati on 6.2
3 Days
許 吳 邱

Finish

Estimated time: around 53 days

}

Teamwork{



許馨文

- GUI 設計
- 登入設計
- FirstPage/SecondPage 的 GUI Design
- 期末報告的簡報

吳堃豪

組長

- 建構 SQL
- 程式架構與後端
- 期末報告 Word 檔案
- 分派組內分工與監督死線

邱郁宸

- GUI 設計
- CardLayout
- SQL 架構與命令句
- 期末報告的簡報

張奕奇

- SQL 命令與連線處理
- 撰寫邏輯運算及GUI 的重繪
- 期末報告的說明書及打包

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