



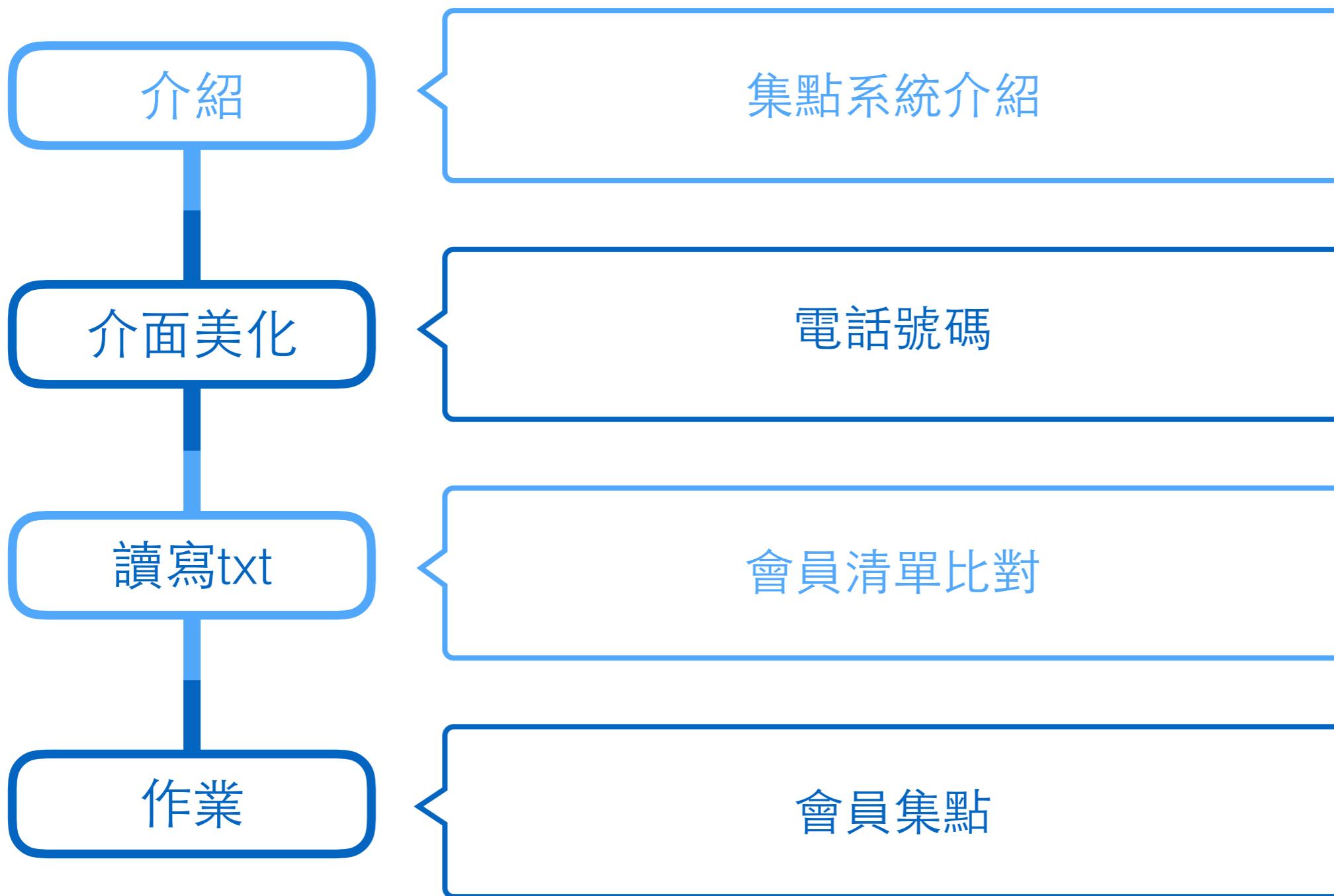
BIOPHOTONICS & BIOIMAGING LABORATORY

# Qt Lesson 5

Lisa Tsai @ 2017 Summer

NTUBIME Lab405

# Schedule



# Qt Schedule

	日期	課程	作業
week 1	7/4	Qt 環境架設 & GUI 簡單介紹	點餐系統
week 2	7/25	Qt 基礎練習 / widget 介紹	會員集點
week 3	8/1	Github / SourceTree	上傳前兩次作業
week 4	8/8	Gitbook 專案管理 / 共同編輯 / 同步 / 版本控制	fork 及修改別人的專題
week 5	8/15	指標、初階物件導向應用	
week 6	8/22	進階物件導向程式設計	打磚塊
week 7	8/29	Qt IO system 功能介紹	CSV資料處理
week 8	9/5	Qt QImage & QTimer 介紹	計時器或小畫家
week 9	9/12	Qt 多執行緒程式撰寫	滑鼠控制事件
week 10	9/19	使用常見函式庫 qcustomplot / OpenCV 基礎介紹	資料處理及統計
week 11	9/26	專題輔導	
week 12	10/3	專題輔導	
week 13	10/11	專題輔導	
week 14	10/17	專題報告	專題

# 介紹

集點系統介紹，認識如何集點



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# ShareLike (1/2)



# ShareLike (2/2)



Sharelike

免下載 APP

免掃描 QR code

10秒輸入電話號碼

客人參與超簡單！

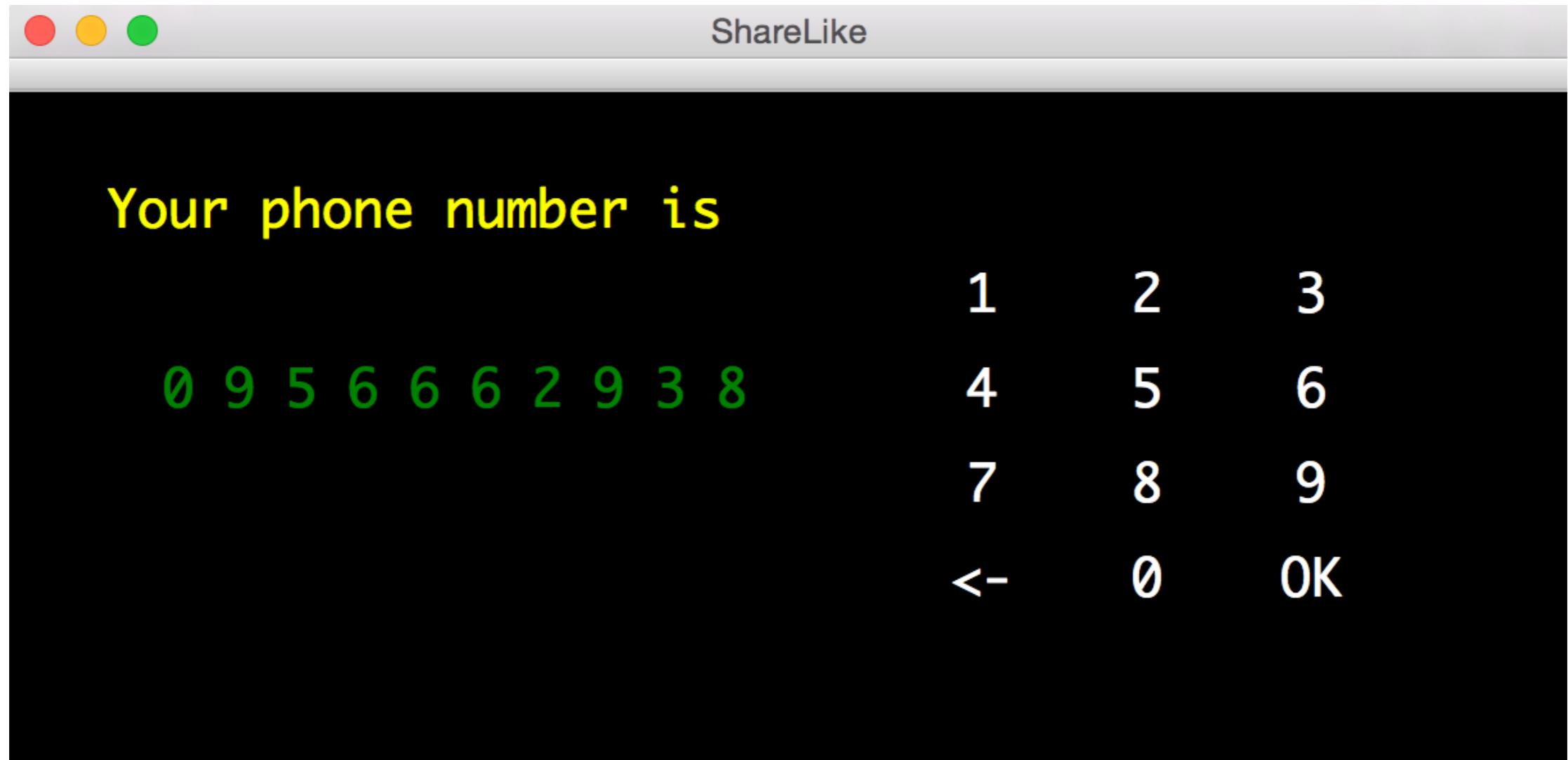
界面美化

電話號碼



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# 電話號碼 - 字型及顏色



```
QFont font("Monaco", 20, QFont::Bold);
ui->pushButton_0->setFont(font);
ui->pushButton_0->setStyleSheet("background-color: black; color : white; ");
```

# 電話號碼 - 顯示

```
void MainWindow::on_pushButton_1_clicked()
{
    if(phone.length()<20){
        phone += " 1";
        ui->label->setText(phone);
    }
}

void MainWindow::on_pushButton_Back_clicked()
{
    //if (!phone.isEmpty()){
    if(phone.length() > 2){
        phone = phone.remove(phone.length()-2, phone.length()-1);
        ui->label->setText(phone);
    }
    else{
        phone = "";
        ui->label->setText(" ");
    }
}

ui->pushButton_0->resize(100,100);
```

# 電話號碼 - 檢查 方法— Read text

```
QFile inputFile(TextPath);                                //or inputFile.setFileName(TextPath);

if(inputFile.exists()){
    if(inputFile.open(QIODevice::ReadOnly)){
        QTextStream in(&inputFile);          //or in.setDevice(&inputFile);
        while(!in.atEnd()){
            QString line = in.readLine();      //readLine(int) (max 75)
            ui->textEdit->append(line);
        }
    }
    inputFile.close();
}
else
    QMessageBox::warning(0, 0, "NO TEXT FILE FOUND!!");
```

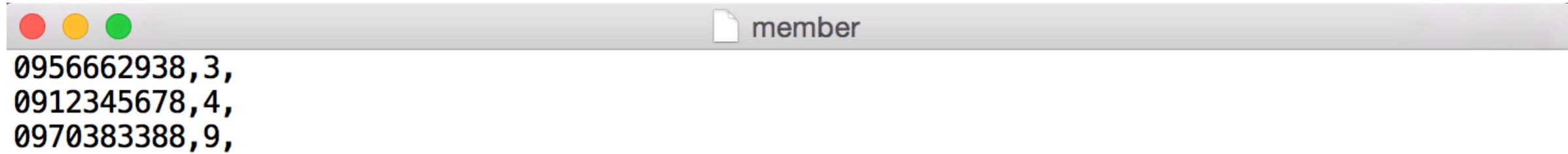
```
#ifndef MAINWINDOW_H
#define MAINWINDOW_H

#include <QMainWindow>
#include <QFileDialog>
#include <QImage>
#include <QString>
#include <QFile>
#include <QTextStream>
#include <QMessageBox>
```

# 電話號碼 - 檢查 方法— Write Text

```
QFile outputFile(TextPath);
if(outputFile.exists())
    outputFile.remove();
if(outputFile.open(QIODevice::Append | QIODevice::Text)){
    QTextStream out(&outputFile);
    out << ui->textEdit->toPlainText()<<endl;
    outputFile.flush();
    outputFile.close();
}
else
    QMessageBox::warning(0, "WARNING", "Cannot open file for writing");
```

# 電話號碼 - 檢查 方法二 Read CSV



```
qDebug() << phoneList;  
qDebug() << countList;
```

```
Starting /Users/tsaitsai/build-ShareLike-Desktop  
ShareLike...  
("0956662938", "0912345678", "0970383388")  
("3", "4", "9")
```

# 電話號碼 - 檢查 方法二 Read CSV

```
void MainWindow::on_pushButton_0K_clicked()
{
    QFile inputFile("/Users/tsaitsai/Desktop/member.csv");                                //or inputFile.setFileName(Te
    QStringList phoneList;
    QStringList countList;
    if(inputFile.exists()){
        if(inputFile.open(QIODevice::ReadOnly)){
            QTextStream in(&inputFile);      //or in.setDevice(&inputFile);
            while(!in.atEnd()){
                QString line = in.readLine();          //readLine(int) (max 75)
                phoneList.append(line.split(',')[0]);//phoneList.append(line.split(',')[0]);
                countList.append(line.split(',')[1]);
            }
        }
        inputFile.close();
    }
    else
        QMessageBox::warning(0, 0, "NO TEXT FILE FOUND!!");
}
```

# 字串 & 數字相互轉換

```
count = countList[i].toInt()+1;  
countList[i] = QString::number(count);
```

# Review

在 Qt 中使用圖片  
背景  
icon



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# Qt 的四個圖像Class

- **QImage** - I/O，顯示或修改圖片使用
- **QPixmap** - 繪圖用
- **QBitmap** - 繼承QPixmap，提供單色圖片（圖片深度為1）
- **QPicture** - 可以重演QPainter的命令，專為繪圖功能設計的Class
- 也可以藉由QPainter來修改像素(pixel)

# Find icon or image

The background of the page is a dark gray overlay featuring a repeating pattern of various icons such as coffee cups, robots, and tools. In the top left corner, there is a white navigation bar with the FlatIcon logo (a stylized 'F' icon) and the word "FLATICON". In the top right corner, there are two small circular icons: one with a person and another with a grid, both with a small '1' in the top right corner. Below the navigation bar, a large white text box contains the text "459,638 vector icons grouped in 8,539 packs". Underneath this, a smaller text box says "The largest database of free icons available in PNG, SVG, EPS, PSD and BASE 64 formats.". At the bottom of the overlay, there is a white search bar with the placeholder "Search icons" and a magnifying glass icon. Below the search bar, there is a line of social media icons for Facebook, Twitter, Google+, and Pinterest. A small plus sign icon is also visible on the far left edge of the overlay.

Are you an icon designer? [Discover how to earn money with us](#)

Search icons

FLATICON

1

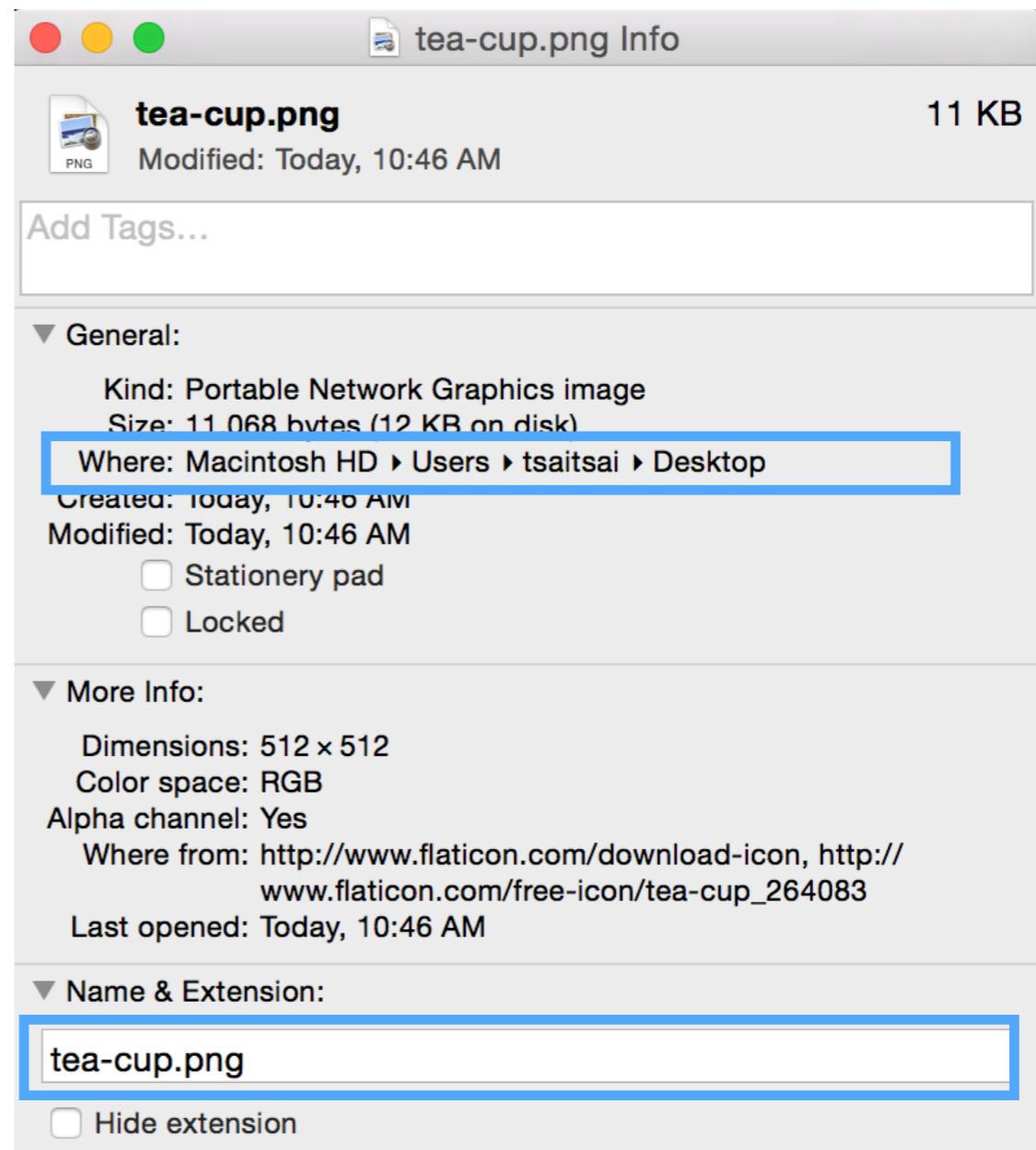
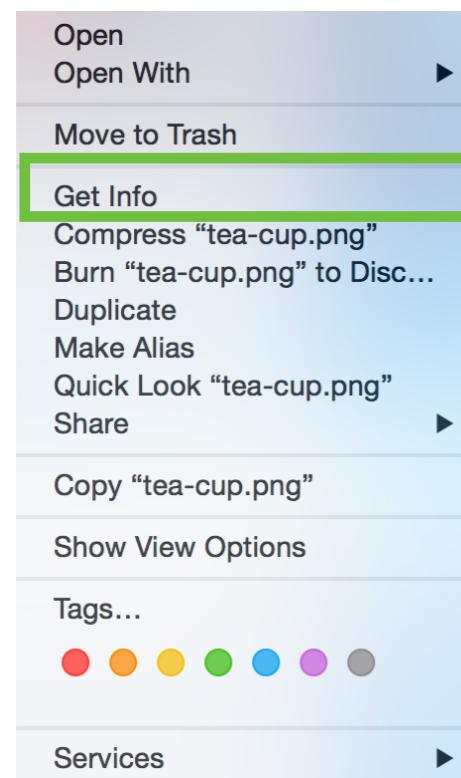
459,638 vector icons grouped in 8,539 packs

The largest database of free icons available in PNG, SVG, EPS, PSD and BASE 64 formats.

+

Facebook Twitter Google+ Pinterest

# Find the path of your image



```
QPixmap icon("/Users/tsaitsai/Desktop/tea-cup.png");
ui->label->setPixmap(icon);
```

# Fix the size problem

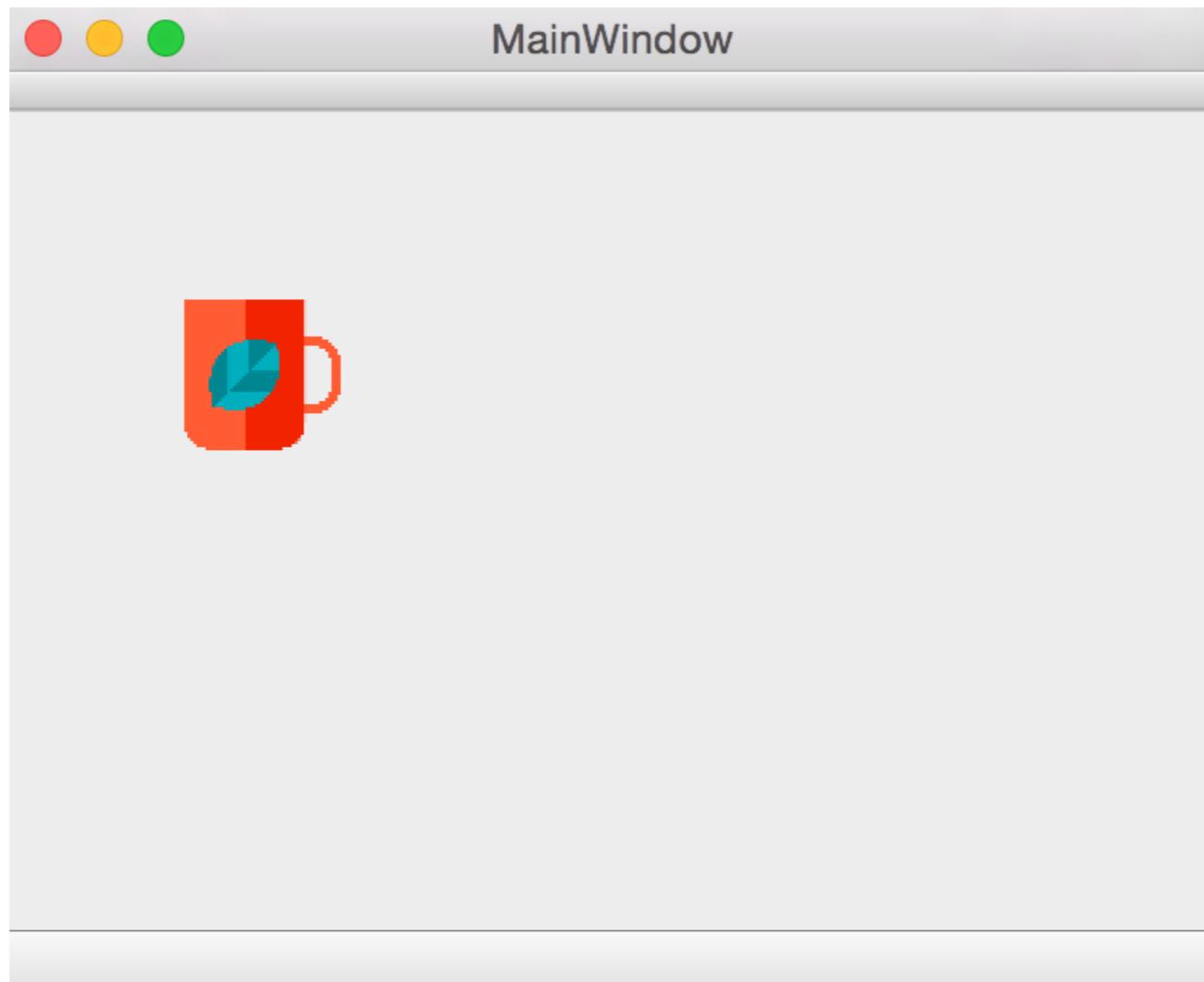
Let label fit image :

```
ui -> label -> setFixedSize(icon.size());  
ui -> label -> setPixmap(icon);
```

Let image fit label :

```
ui -> label-> setPixmap(icon.scaled  
(ui->label->width(),ui->label-  
>height(),Qt::KeepAspectRatio))
```

# Result



# Change icon of Mainwindow (.ico)

IconArchive

drink

Search

Browse ▾

Newest

Popular

Largest

Random

Categories ▾

Artists

My Favs

Display

Icons per Page:



Background color:



Sort by Size

Color:



Search Filters

Size: All

Category: All

Style: All

License: All

Results 1-24 of 232 for search term "drink".

< Previous

1

2

3

4

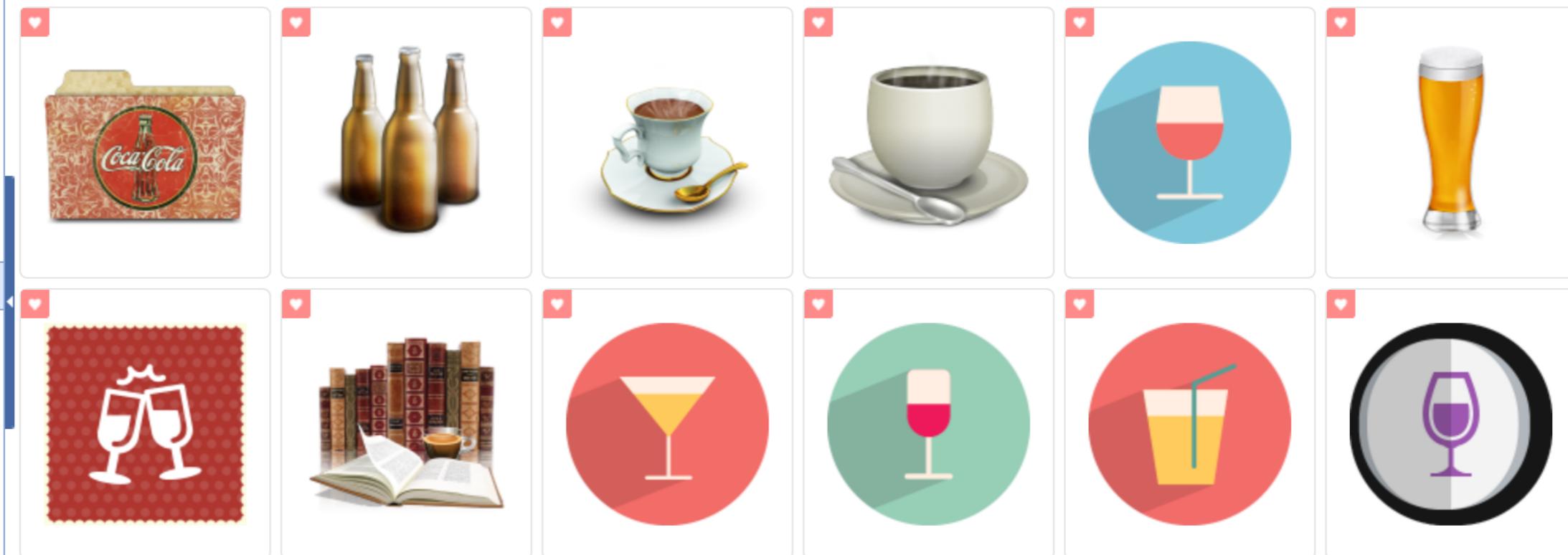
5

6

...

10

Next >



MainWindow : QMainWindow

Property Value

cursor Arrow

mouseTracking



focusPolicy NoFocus

contextMenuPolicy DefaultContextMenu

acceptDrops



▶ windowTitle MainWindow

▶ windowIcon [Theme]

Choose Resource...

Choose File...

Set Icon From Theme...

# Background (Image or Color)

## Method 1. mainwindow.cpp

```
this->setStyleSheet("background-  
image:url(\"ImagePath\"); background-position:  
center;");
```

## Method 2. main.cpp

```
QApplication a(argc, argv);  
MainWindow w;  
w.setStyleSheet("background-color: black");  
w.show();
```

作業

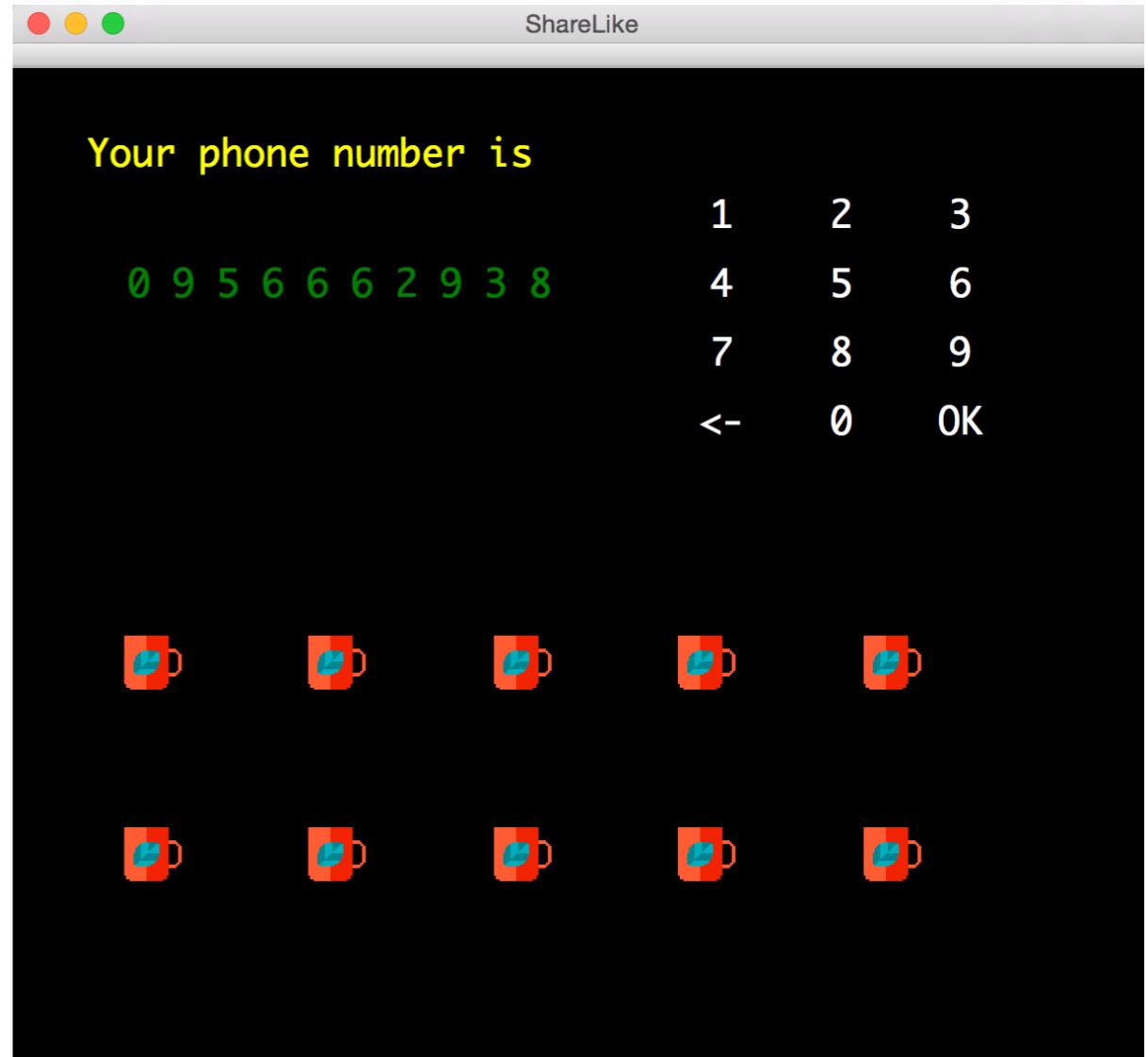
集點系統



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# Homework

- 紀錄電話號碼
- 紀錄對應集點點數
- 可新增電話號碼
- 介面設計



# 參考網站

## Qt 官方網站

[http://doc.qt.io/qt-5/  
qtexamplesandtutorials.html](http://doc.qt.io/qt-5/qtexamplesandtutorials.html)

## 阿洲（中文）

[http://monkeycoding.com/?page\\_id=5](http://monkeycoding.com/?page_id=5)

## 影片教學（英文）

[https://www.youtube.com/watch?  
v=6KtOzh0StTc&list=PL2D1942A4688E9D  
63](https://www.youtube.com/watch?v=6KtOzh0StTc&list=PL2D1942A4688E9D63)

*Thank you ~*



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