

INGENIEURSGRAFIKA EN -ONTWERP

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Scenario and Scope

Mark owns a big software company and is interested in what email clients the people in his city use. Mark has gotten permission from a local library and internet cafe to install a program to collect this information.

I intend to code a program for him which can capture peoples name, surname and email address. The program will be disguised as a desktop version of facebook which captures users information when they use it. When a new user signs up it will store their name, surname and email address and then send the data to Mark himself. The facebook clone will also send the person an email verification to verify that the email they used to sign up really belongs to them.

User Requirements

user1

Role

Normal

Activities

Everyone is a normal user by default. An admin password can be requested and then a user can acquire admin rights.

Limitations

The user cannot view all registered accounts and cannot access the Password Cracker app.

user2

Role

Admin

Activities

Once you have received the email containing your admin password, you have full access.

Limitations

The admin has no limitations. He or She can do anything that is possible within the program. An admin can access all the apps including the password cracker and can also view all registered accounts on the system.

Flow Diagram

Data Structure

Global Variables

```
var sFirstName, sSurname, sPassword, sEmail, sEmailLogIn, sPasswordLogIn,  
sUserOne, sUserTwo,  
  
sUserThree, sUserFour, sUserFive, sUserSix, sUserSeven, sTempOne, sTempOneOne, sTempTwo,  
  
sTempTwoTwo, sTempThree, sTempThreeThree, sTempFour, sTempFourFour, sTempFive,  
  
sTempFiveFive, sTempSix, sTempSixSix, sTempSeven, sTempSevenSeven, sMailUsername,  
  
sMailPassword, sMailTo, sMailSubject, sMailBody, sOneTimePassword : String;  
iPosOne, iPosTwo, iPosThree, iPosFour, iPosFive, iPosSix, iPosSeven : Integer;
```

Local Variables

```
var iPosSpaceOne, iPosSpaceTwo, iPosSpaceThree : Integer;  
  
bFlag1, bFlag2, bFlag3, bFlag4, bFlag5, bFlag6 : Boolean;  
  
var sSubmitPassword : String;  
  
var sCaptcha, sInput : String;
```

Software Diagram

GUI (Graphical User Interface)

Home

Purpose/Use:

The purpose of the graphical user interface is to allow the user to interact with my program. The picture above is the 'Home' screen of my program. Here the user can create an account by filling in his/her details and then clicking the 'Sign Up' button and then continue by 'Logging In'.

Components:

pnlTop, pnlBottom, lblFacebook, lblCreateAnAccount, lblItsQuickAndEasy, lblBirthday, lblGender, edtFirstName, edtSurname, edtEmail, edtPassword, cmbDay, cmbMonth, cmbYear, radMale, radFemale, radOther, btnCheck, btnSignUp, edtEmailLogIn, edtPasswordLogIn, btnLogIn

Data Validation:

All inputs will be carefully validated to make sure they are valid. Names, emails, phone numbers and passwords may not contain spaces. Phone numbers may only contain digits. The email must include an '@' sign and must include a full stop to be a valid email address.

One Time Password

Purpose/Use:

The picture above is the 'One Time Password' screen of my program. When the user clicks the 'One Time Password' button a verification message will be sent to the email they signed up with containing their unique one time password. The one time password consists of four random capital letters and four random digits or numbers. Although most one time passwords from companies like Google, Facebook and Instagram only consist of six numbers, I tried to improve it by including letters as well as numbers.

Components:

pnlTop, pnlBottom, lblFacebook, lblEmailVerification, lblSubmitOneTimePassword, btnSendOneTimePassword, btnSubmitOneTimePassword, edtSubmitPassword

Data Validation:

The password the user submits must match the password that was sent to the user via email. if sSubmit = sPassword then ShowMessage('Email Verified') else ShowMessage('Incorrect One Time Password')