

**HCMC UNIVERSITY OF TECHNOLOGY AND EDUCATION**

Faculty For High Quality Training



**FINAL PROJECT REPORT**  
**CREATE NOTE PROGRAM**  
**NOTE PROGRAMME**

**TUTOR: PhD. Huỳnh Xuân Phụng**

**CLASS ID: WIPR230579E\_19\_2\_02CLC**

**(Tuesday, period 7-10)**

**STUDENT INVOLVEMENT:**

**Hồ Đắc Hiếu ..... 18110014**

**Đào Trung Nam ..... 18110031**

**La Quốc Toàn ..... 18110055**

**Ho Chi Minh City**

**June / 2020**

**HCMC UNIVERSITY OF TECHNOLOGY AND EDUCATION**

Faculty For High Quality Training



**FINAL PROJECT REPORT**  
**CREATE NOTE PROGRAM**  
**NOTE PROGRAMME**

**TUTOR: PhD. Huỳnh Xuân Phụng**

**CLASS ID: WIPR230579E\_19\_2\_02CLC**

**(Tuesday, period 7-10)**

**STUDENT INVOLVEMENT:**

**Hồ Đắc Hiếu ..... 18110014**

**Đào Trung Nam ..... 18110031**

**La Quốc Toàn ..... 18110055**

**Ho Chi Minh City**

**June / 2020**

## SCORE

| CRITERION | CONTEXT | PRESENTATION | TOTAL |
|-----------|---------|--------------|-------|
|           |         |              |       |

## TUTOR'S COMMENT

### ASSESSMENT:

- Hồ Đắc Hiếu: .....
- Đào Trung Nam: .....
- La Quốc Toàn: .....
- .....
- .....
- .....
- .....
- .....
- .....

Instructor

## PREAMBLE

A completed study would not be done without any assistance. Therefore, the author, who have completed this project, gratefully gives acknowledgement to the support and motivation during the time of doing this research as a requirement of completing my Windows Programming.

First of all, we would like to express our endless gratefulness to our lecturer, PhD.Huynh Xuan Phung. His support and advices went through the process of completion of our thesis. His encouragement and comments had significantly enriched and improved our work. Without his motivation and instructions, the thesis would have been impossible to be done effectively.

Our special thanks approve to all of teachers in Faculty For High Quality Training with having assistances and motivating us for our thesis. We also would like to explain our thanks to our classmates for their support.

At last, we wish all of teachers more health, happiness and always success in the teaching path

Ho Chi Minh, June 14, 2020

Our group

## Contents

|  |           |
|--|-----------|
| <b>List of tables .....</b>                            | <b>1</b>  |
| <b>Chapter 1: Program overview .....</b>               | <b>3</b>  |
| <b>1.     <i>General Introduction</i> .....</b>        | <b>3</b>  |
| <b>1.1   <i>Project requirement</i>.....</b>           | <b>3</b>  |
| <b>1.2   <i>Project analysis</i> .....</b>             | <b>3</b>  |
| <b>1.3   <i>Mode of implement</i> .....</b>            | <b>3</b>  |
| <b>Chapter 2: Plan of operation .....</b>              | <b>4</b>  |
| <b>1.     <i>Plan</i> .....</b>                        | <b>4</b>  |
| <b>2.     <i>Task divisions</i> .....</b>              | <b>5</b>  |
| <b>Chapter 3: Design program .....</b>                 | <b>7</b>  |
| <b>1.     <i>Algorithm</i>.....</b>                    | <b>7</b>  |
| <b>2.     <i>Design class</i> .....</b>                | <b>7</b>  |
| <b>3.     <i>Design database</i> .....</b>             | <b>7</b>  |
| <b>4.     <i>Fields</i> .....</b>                      | <b>8</b>  |
| <b>5.     <i>Design interface</i> .....</b>            | <b>10</b> |
| <b>Chapter 4: Setting and Testing.....</b>             | <b>14</b> |
| <b>Chapter 5: Conclusion and development path.....</b> | <b>16</b> |
| <b>1.     <i>Conclusion</i>.....</b>                   | <b>16</b> |

## List of tables

|                                       |   |
|---------------------------------------|---|
| Table 1: Weekly plan .....            | 4 |
| Table 2: Task divisions in teams..... | 5 |

## List of images

|  |    |
|--|----|
| Image 1: User .....                    | 8  |
| Image 2: List of Notes .....           | 8  |
| Image 3: List of TrashBin .....        | 9  |
| Image 4: List of Important notes ..... | 9  |
| Image 5: Login form.....               | 10 |
| Image 6: Note form.....                | 11 |
| Image 7: Trashbin form .....           | 11 |
| Image 8: Send-email form .....         | 12 |
| Image 9: Set-alarm form.....           | 12 |
| Image 10: Alarm announcement .....     | 13 |
| Image 11: Testing 1 .....              | 14 |
| Image 12: Testing 2 .....              | 14 |
| Image 13: Testing 3 .....              | 15 |
| Image 14: Testing 4 .....              | 15 |

# Chapter 1: Program overview

## ***1. General Introduction***

### ***1.1 Project requirement***

Our product is object-oriented and written mainly by C# which is mainly used to allow different users to create new notes and manage their notes.

### ***1.2 Project analysis***

- Build object - oriented program
- Allow different users to create their accounts
- Allow users to create, manage and share their notes by directly interacting with our program

### ***1.3 Mode of implement***

- Build object-oriented program by C#: inheritance, encapsulation
- Apply Windows form application to create program interface for users



## Chapter 2: Plan of operation

### 1. Plan

*Table 1: Weekly plan*

| Week | Task   |
|------|--|
| 5    | Try using SimpleNote program and make a list of functions which are needed to be developed.  |
| 6    | Divide tasks for group members and design user interface   |
| 7    | Develop functions: <ul style="list-style-type: none"><li>- Create new note</li><li>- Edit note (Copy, Cut, Paste, Select All)</li><li>- Save modified note</li><li>- Search note</li><li>- Tag</li><li>- Attach and draw image function</li></ul>  |
| 8    | Develop functions: <ul style="list-style-type: none"><li>- Edit note (Change Font, Color, Size, Undo, Redo)</li><li>- Export note into .txt files</li><li>- Import note from .txt files</li><li>- Change View (Light – Dark View)</li><li>- Set alarm</li><li>- Send emails functions</li><li>- Delete functions</li></ul> |
| 9    | Develop functions: <ul style="list-style-type: none"><li>- Important notes</li><li>- Text-to-Speech</li><li>- Change View (Light – Dark View)</li></ul>  |

|    |  |
|----|--|
|    | - Create Trashbin interface  |
| 10 | Redevelop user interfaces for user-friendly being.<br>Generate source code into MVC model.Test and fix bugs.<br>Complete program |
| 11 | Write reports and report   |

## 2. Task divisions

*Table 2: Task divisions in teams*

|   | Name                | Task description  | Distribution |
|---|---------------------|---|--------------|
| 1 | Hồ Đắc<br>Hiếu      | <ul style="list-style-type: none"> <li>- Give tasks for members</li> <li>- Write functions: <ul style="list-style-type: none"> <li>○ Create new notes</li> <li>○ Modify old notes</li> <li>○ Export and Import note</li> <li>○ Tag</li> <li>○ Search note (by title and tag)</li> <li>○ Set alarm</li> <li>○ Important notes</li> </ul> </li> <li>- Check and fix bugs</li> <li>- Write Report</li> </ul> | 30%          |
| 2 | Đào<br>Trung<br>Nam | <ul style="list-style-type: none"> <li>- Plan and give more ideas about further project</li> <li>- Write functions: <ul style="list-style-type: none"> <li>○ Edit note: Copy, Cut, Paste, Select<br/>All, Change Font, Color, Size</li> </ul> </li> <li>- Change View (Light – Dark View)</li> <li>- Design interface</li> <li>- Write Report</li> </ul>  | 30%          |
| 3 | La Quốc<br>Toàn     | <ul style="list-style-type: none"> <li>- Write functions: <ul style="list-style-type: none"> <li>○ Sign-up, Sign-in</li> </ul> </li> </ul>  | 40%          |

|  |  |   |  |
|--|--|---|--|
|  |  | <ul style="list-style-type: none"> <li>○ Edit note: Undo, Redo</li> <li>○ Send notes via e-mails</li> <li>○ Allow users to attach an image to the note</li> <li>○ Allow users to draw an image to the note</li> <li>○ Manage Trashbin: <ul style="list-style-type: none"> <li>▪ Move into trashbin</li> <li>▪ Restore from trashbin</li> <li>▪ Delete permantly</li> </ul> </li> <li>- Convert Text to Speech</li> <li>- Connect to SQL</li> <li>- Complete product from written functions of all members</li> <li>- Generate source code into MVC model</li> <li>- Design interface</li> <li>- Check and fix bugs</li> <li>- Write Report</li> </ul> |  |
|--|--|---|--|

## Chapter 3: Design program

### *1. Algorithm*

### *2. Design class*

#### 3.1.1 List of classes:

- Class User // Take object from User table in database.
- Class NOTE // Take object from List\_Of\_Notes table and List\_Of\_TrashBin table in database, the base to apply inherit property when develop function set important for note.
- Class NOTE1 // Take object from List\_Of\_ImportantNote table in database, inherit class NOTE

#### 3.1.2 List of methods

- Inherit
- Encapsulation

### *3. Design database*

#### - Table 1 Name: Users

Purpose of table: This table use for remember all of user use the programme, it is applied in login and register function. Besides that, by using foreign key in database, the Username field in this table can be use to link with all of other table in database.

#### - Table 2 Name: List\_Of\_Notes

Purpose of table: This table use for remember all of Note of all user using this programme. When the programme is running it is going to call all notes of that user to the programme or if user want to save a note, it will be save in this table.

#### - Table 3 Name: List\_Of\_TrashBin

Purpose of table: This table use for remember all of Trash Bin of all user using this programme. When the programme is running and user want to show all of trashbin it is going to call all trash in that user account to the programme or if user want to delete a note, it will be washed away in List\_Of\_Notes table but it will be save into this table. This stage make all notes do not be deleted permanent immediately. This help user can restore which they deleted.

- Table 4 Name: List Of ImportantNotes

Purpose of table: This table use for remember all of Important Notes (At most: 5 notes) of all user using this programme. When the programme is running it is going to call all important notes of that user to the programme. New adding important note also be update in this table.

#### 4. Fields

- Table 1 Name: User

|    | Column Name | Data Type   | Allow Nulls              |
|----|-------------|-------------|--------------------------|
| PK | Username    | varchar(30) | <input type="checkbox"/> |
|    | Pass_word   | varchar(30) | <input type="checkbox"/> |
|    |             |             | <input type="checkbox"/> |

*Image 1: User*

Username and Pass\_word use for saving user information. Apply in login function and registration funtion. Beside that this is the main table, All other table have to link with this table thru Username. Pass\_word is used like a security method. Username is primary key, it makes sure that each username is exclusive.

- Table 2 Name: List Of Notes

|    | Column Name         | Data Type    | Allow Nulls                         |
|----|---------------------|--------------|-------------------------------------|
| PK | Username            | varchar(30)  | <input type="checkbox"/>            |
| FK | NotesOrder          | int          | <input type="checkbox"/>            |
|    | NotesHeader         | text         | <input checked="" type="checkbox"/> |
|    | NotesContent        | text         | <input checked="" type="checkbox"/> |
|    | NoteTag             | varchar(30)  | <input checked="" type="checkbox"/> |
|    | FontFamily          | varchar(30)  | <input checked="" type="checkbox"/> |
|    | FontSize            | int          | <input checked="" type="checkbox"/> |
|    | NoteColor           | varchar(30)  | <input checked="" type="checkbox"/> |
|    | NotePictureName     | nvarchar(70) | <input checked="" type="checkbox"/> |
|    | NoteDrawPictureName | nvarchar(70) | <input checked="" type="checkbox"/> |
|    |                     |              | <input type="checkbox"/>            |

*Image 2: List of Notes*

Username and NotesOrder are primary key and it makes sure that want username can have many notes. NoteHeader and NoteContent are where the database save the information of note like content or header. Beside that, NoteTag is used for easier manage if user need to. FontFamily, FontSize, NoteColor are used to set values of the appearance of each note. NotePictureName is used for saving the existed picture in our computer which user attached to the note and NoteDrawPictureName is used for

saving the picture that user drew. Username is also a foreign key references to Users table.

- Table 3 Name: List\_Of\_TrashBin

|    | Column Name          | Data Type    | Allow Nulls                         |
|----|----------------------|--------------|-------------------------------------|
| PK | Username             | varchar(30)  | <input type="checkbox"/>            |
| FK | TrashOrder           | int          | <input type="checkbox"/>            |
|    | TrashHeader          | text         | <input checked="" type="checkbox"/> |
|    | TrashContent         | text         | <input checked="" type="checkbox"/> |
|    | TrashTag             | varchar(30)  | <input checked="" type="checkbox"/> |
|    | FontFamily           | varchar(30)  | <input checked="" type="checkbox"/> |
|    | FontSize             | int          | <input checked="" type="checkbox"/> |
|    | TrashColor           | varchar(30)  | <input checked="" type="checkbox"/> |
|    | TrashPictureName     | nvarchar(70) | <input checked="" type="checkbox"/> |
|    | TrashDrawPictureName | nvarchar(70) | <input checked="" type="checkbox"/> |
|    |                      |              | <input type="checkbox"/>            |

*Image 3: List of TrashBin*

All field in this table is similar with all field in List\_Of\_Notes table. It just different that in this table user save the note as trash.

- Table 4 Name: List\_Of\_ImportantNotes

|    | Column Name         | Data Type    | Allow Nulls                         |
|----|---------------------|--------------|-------------------------------------|
| PK | Username            | varchar(30)  | <input type="checkbox"/>            |
| FK | ImportantOrder      | int          | <input type="checkbox"/>            |
|    | ImportantHeader     | text         | <input checked="" type="checkbox"/> |
|    | ImportantContent    | text         | <input checked="" type="checkbox"/> |
|    | ImportantTag        | varchar(30)  | <input checked="" type="checkbox"/> |
|    | FontFamily          | varchar(30)  | <input checked="" type="checkbox"/> |
|    | FontSize            | int          | <input checked="" type="checkbox"/> |
|    | NoteColor           | varchar(30)  | <input checked="" type="checkbox"/> |
|    | NotePictureName     | nvarchar(70) | <input checked="" type="checkbox"/> |
|    | NoteDrawPictureName | nvarchar(70) | <input checked="" type="checkbox"/> |
|    | NoteOrder           | int          | <input type="checkbox"/>            |
|    |                     |              | <input type="checkbox"/>            |

*Image 4: List of Important notes*

All field in this table basically is similar with all field in List\_Of\_Notes table and List\_Of\_TrashBin. The difference here is it must be provided ImportantOrder to saving the important. It makes sure that one user can have 5 notes in the same time (using the condition has been programmed in C# for control). The Note Order mission now is saving the

the origin note order (the order of the note in List\_Of\_Notes table). With this field, it is easier to create function to delete the note out of the list of important notes. And when user delete note, if it exist in the important list it also be deleted. Make sure programme will not created bug in this section.

## 5. Design interface

- Login form:

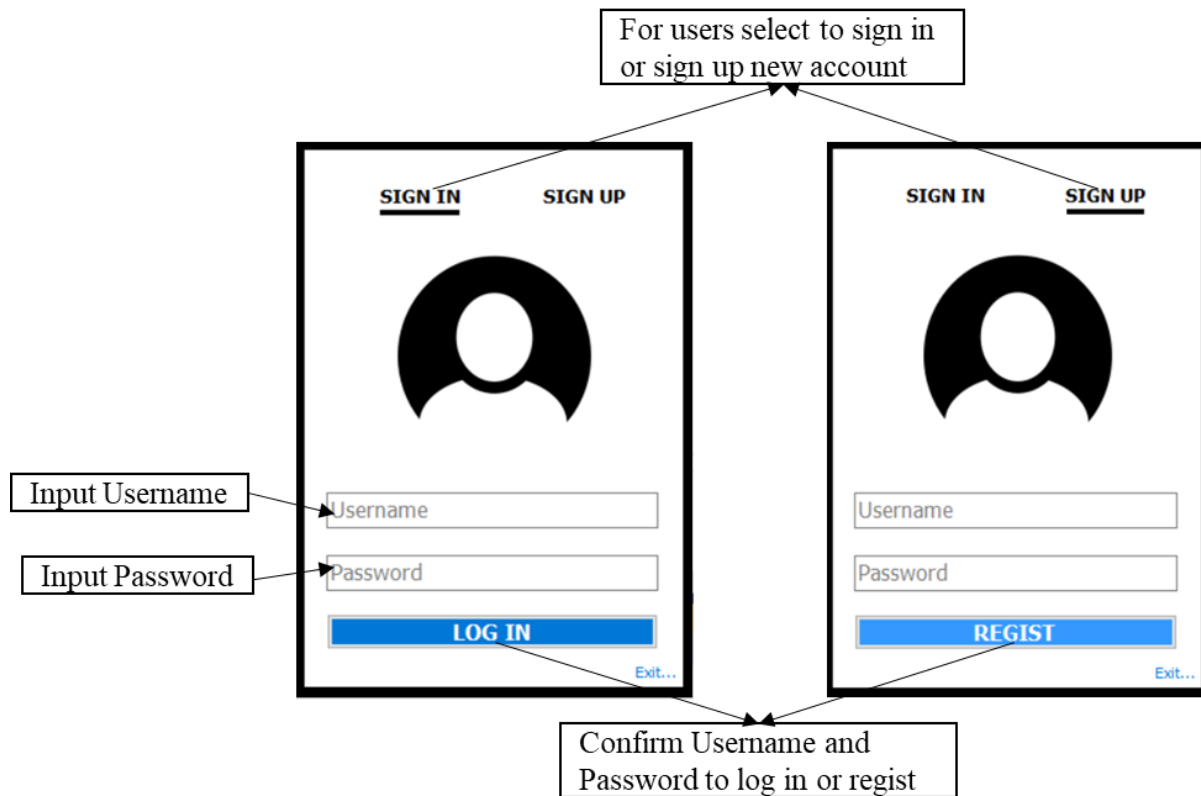


Image 5: Login form

### ○ Note form:

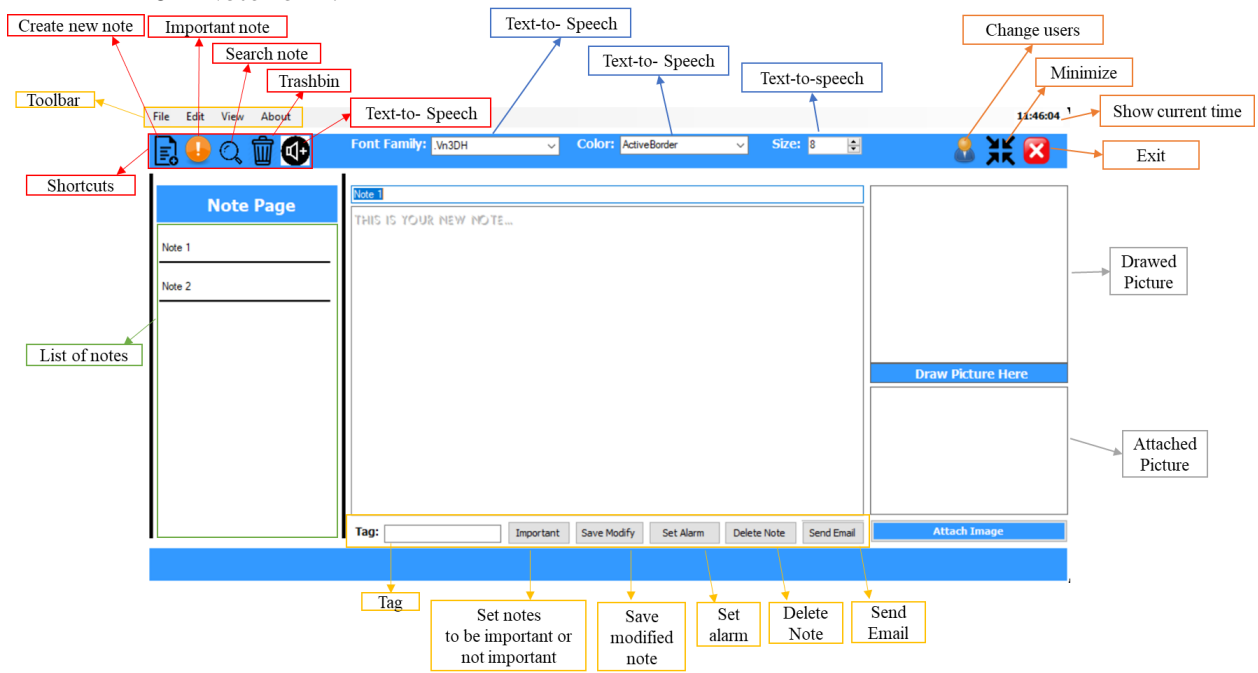


Image 6: Note form

### ○ Trash bin:

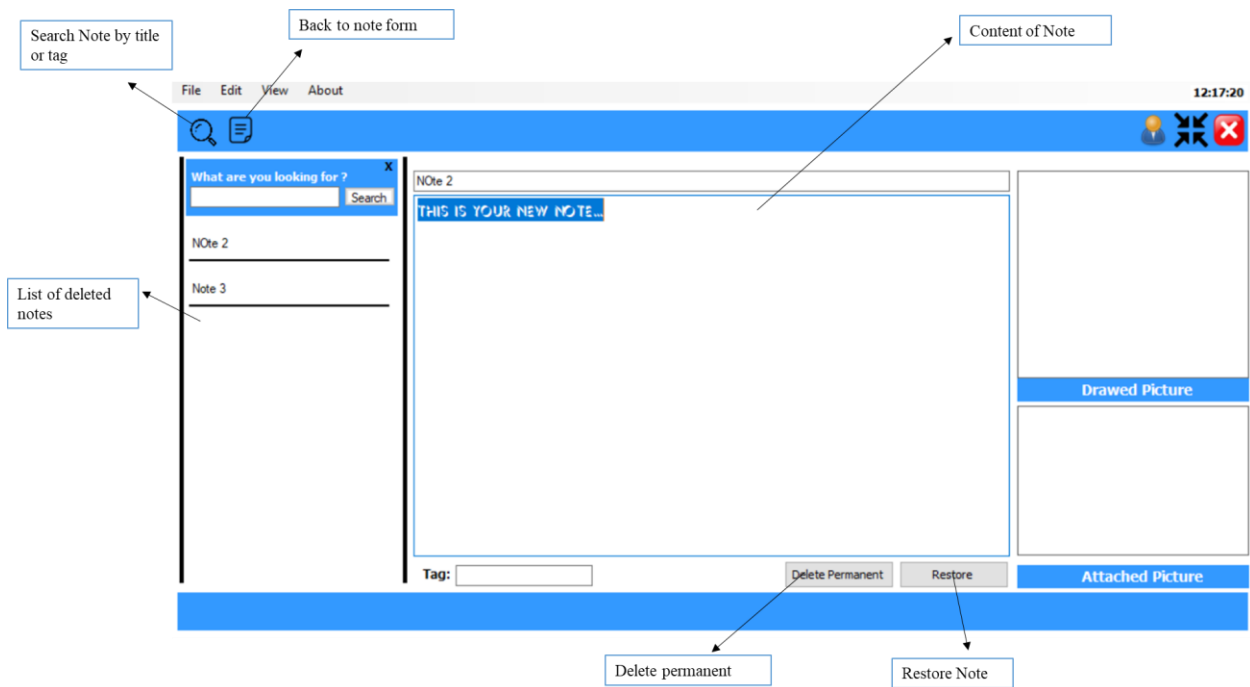



Image 7: Trashbin form



○ Send mail:

Sender's email  
Sender's password  
Receiver's email  
Subject of email  
Content of Note

Email Username:   
Email Password:   
To:   
Subject: Note 1



Back to note form

Draw image  
Attached image  
Send email

Image 8: Send-email form

○ Set alarm:

Set alarm by Hours- Minutes- Seconds

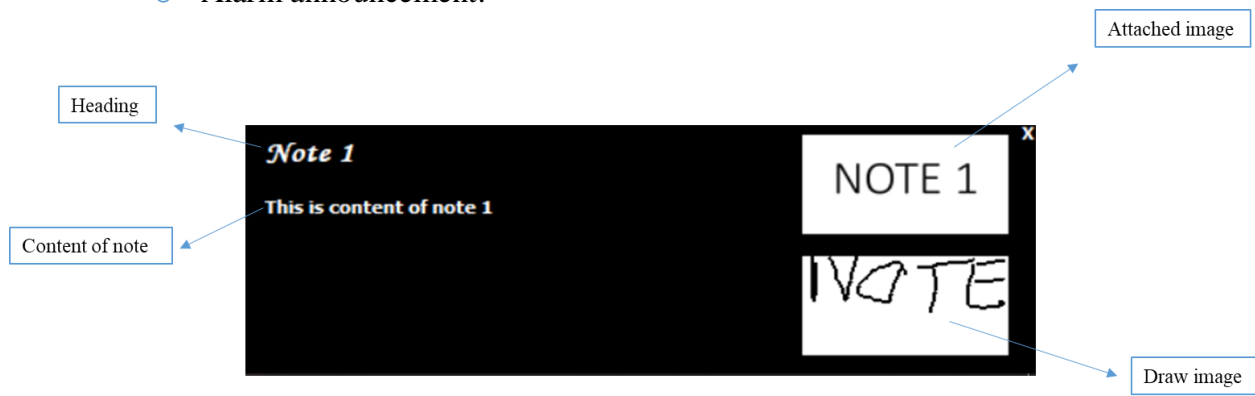
Hours:   
Minutes:   
Seconds:

Set Alarm

Set alarm

Image 9: Set-alarm form

- Alarm announcement:



*Image 10: Alarm announcement*

## Chapter 4: Setting and Testing

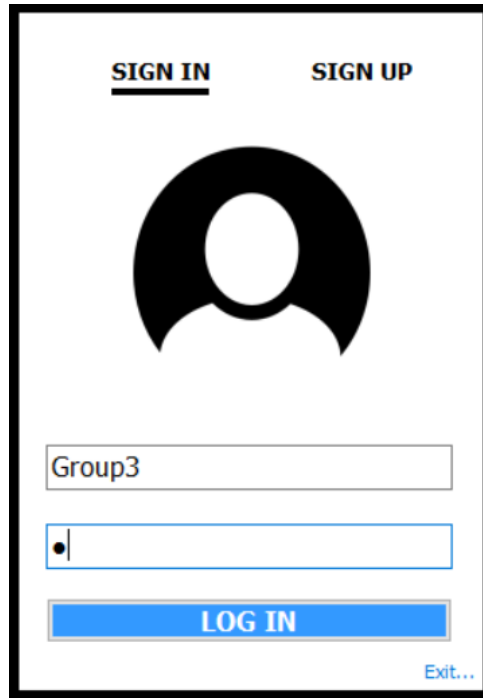


Image 11: Testing 1

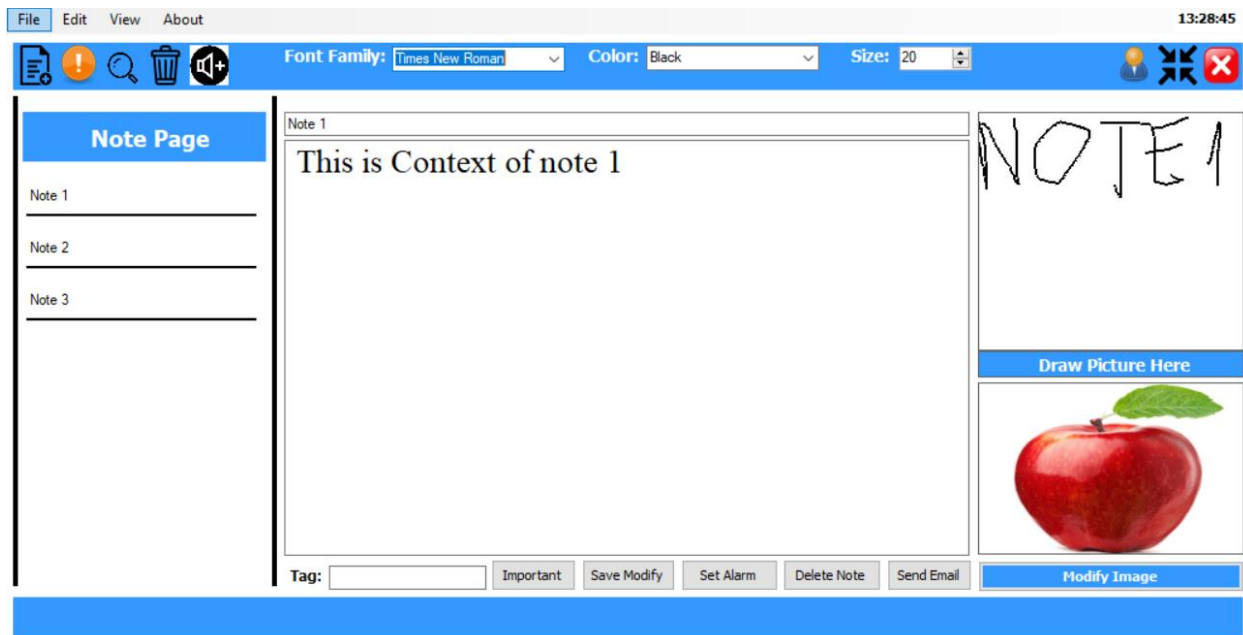


Image 12: Testing 2

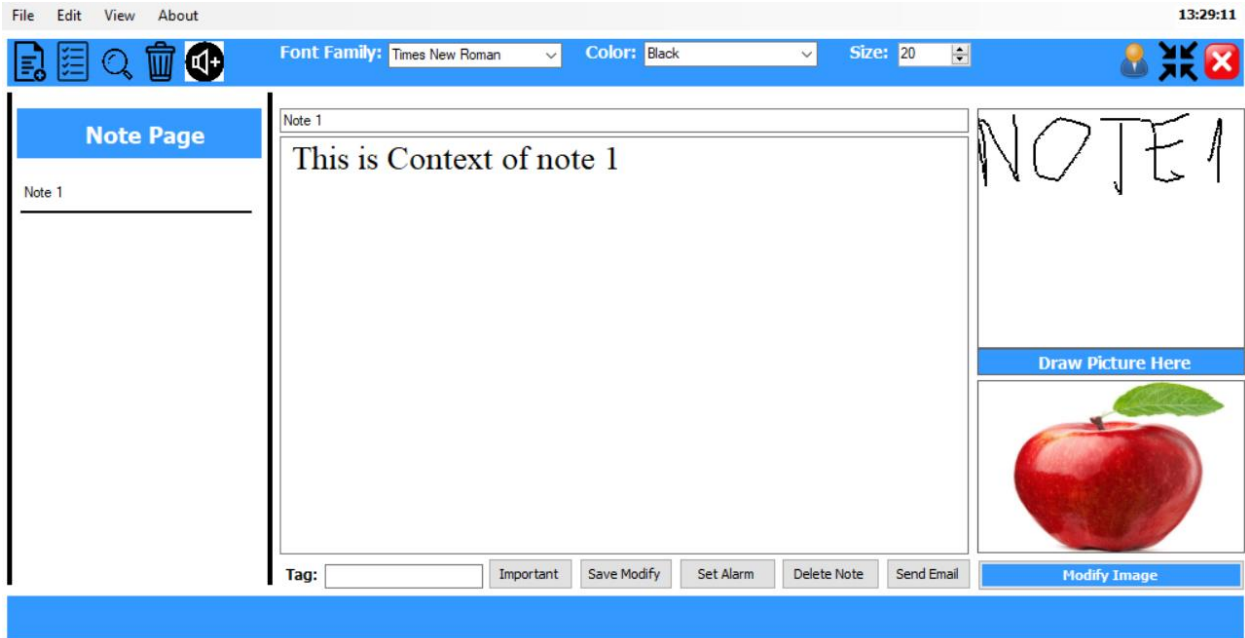


Image 13: Testing 3

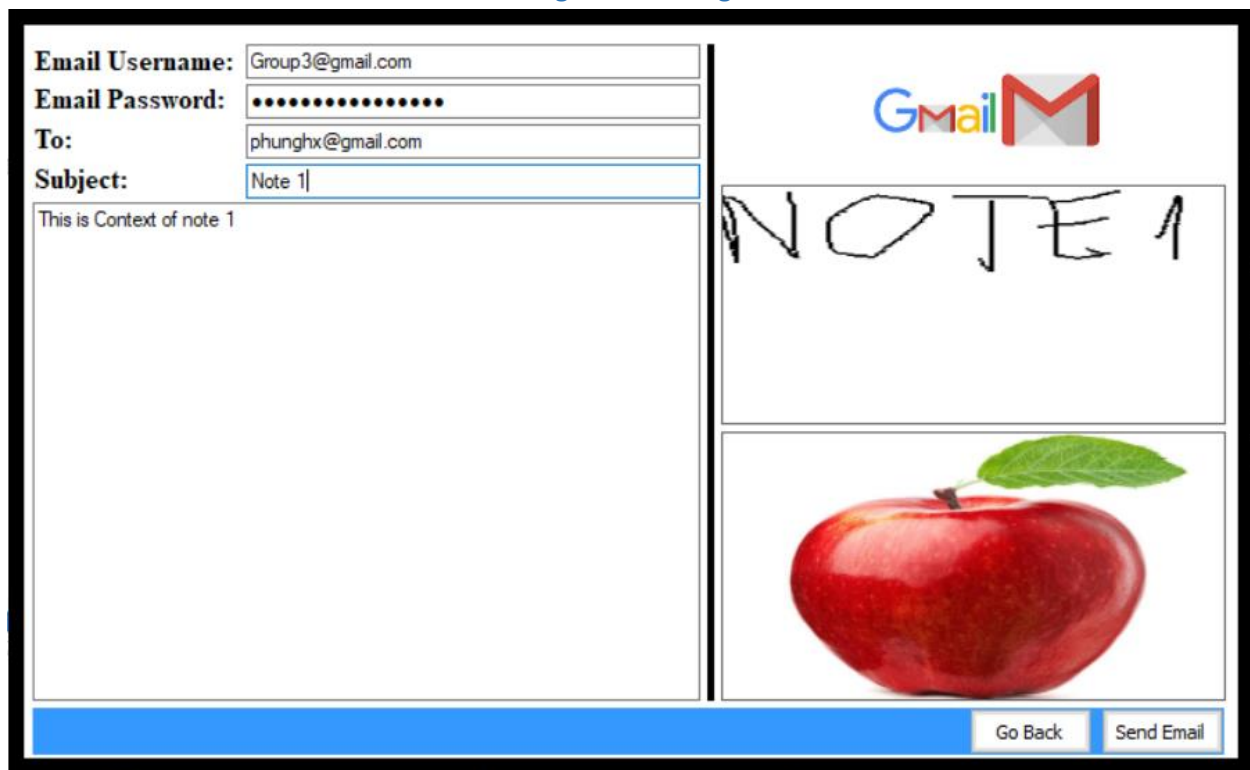


Image 14: Testing 4

## Chapter 5: Conclusion and development path

### 1. Conclusion

In general, our group has reached almost all requirements of project. Here are some positive and negative points of our product.

- Advantages:
  - Have many advanced functions for users to manage their notes (set alarms, important notes, draw and attach images)
  - Allow users to transfer their notes via emails
- Disadvantages:
  - The programme can not remember email and password of use which are used for sending email
  - If user click too much on the sidebar to change the note, it will harm the programme and bug can be created when modify a note.
  - Can not use Vietnamese or Unicode in the programme, the programme just aim to user who use English.

### References:

- Stackoverflow
- <https://www.youtube.com/watch?v=9xeIEcr7lqs>
- <https://www.youtube.com/watch?v=v8tDupHyXd8>
- <https://www.youtube.com/watch?v=9-hAhYMWj9I&t=898s>