

Software Requirements Specification for <Groupinder>

Version 1.0

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Revision History

| Name | Date | Reason for Changes | Version |
|---------------|-------------|--------------------|-----------|
| Groupinder_V1 | Jul-13-2017 | Initial Version | Version 1 |
| Groupinder_V2 | Aug-14-2017 | Final Version | Version 2 |

1. Introduction

1.1 Purpose

Groupinder is a combination of most used apps in current world; such as notes, reminders combined with a collaborative approach to achieve group task scheduling.

1.2 Document Conventions

- Font type- Times New Roman
- Font size- Main Heading- 18, sub heading- 14, content – 12
- Line Spacing- 1.15
- All the functionalities have the same priority.

1.3 Intended Audience and Reading Suggestions

The SRS for Groupinder is intended for users such as:

- Professor Dr. Mukhtar Rana for CSI-518 Software Engineering Course
- Developers at different platforms
- Worldwide users
- Project managers and testers at any organization
- The SRS is written to explain the project and the document can be read to understand every aspect of it.

1.4 Product Scope

Groupinder will allow users to register with their email IDs, send invites (if the user is not already signed up) and share notes (with existing users). The user(s) will be able to set reminders for different entries in a note. Every collaborator in a note will have email/text reminders as per their preference. Users can also have a calendar view for ease of access and will be able to view the conflicts.

1.5 Software Development Lifecycle

We have used **Agile Development Lifecycle** and scrum has been uploaded on the Blackboard

2. Overall Description

2.1 Product Perspective

There are many web/native apps that let us make notes or set reminders for entries in a note. What they lack is letting us create notes and allowing us to set reminders for each entry individually with sharing that note with others. If this is achieved, group tasks can be done more efficiently and easily. **Groupinder** is a combination of most used apps in current world; such as notes, reminders combined with a collaborative approach to achieve group task scheduling.

2.2 Product Functions

- Sign up / login
- Manage notes (Create, Delete, Edit)
- Manage reminders (Create, Edit, Delete)
- Share note(s) / Send invites (via SMS, Text)
- Views (Calendar view Note Title and reminder)

2.3 User Classes and Characteristics

It can be used by a group of students, employees, professors and individuals for scheduling their day to day tasks share the notes with others as well.

2.4 Operating Environment

The Web Application can work on any Operating Environment as it is run through the browser and is compatible on Mobiles, Desktops and Tablets

2.5 Design and Implementation Tools and Technologies used

- Front End (User Interface): Java Server Pages(JSP), JavaScript, Bootstrap
- Languages/Tools Used: Eclipse IDE ,Java, Java Servlet, HTML, CSS, JDBC, MySQL queries
- Database: MySQL on phpMyAdmin
- Server for deployment: Apache Tomcat v8.0

2.6 Assumptions and Dependencies

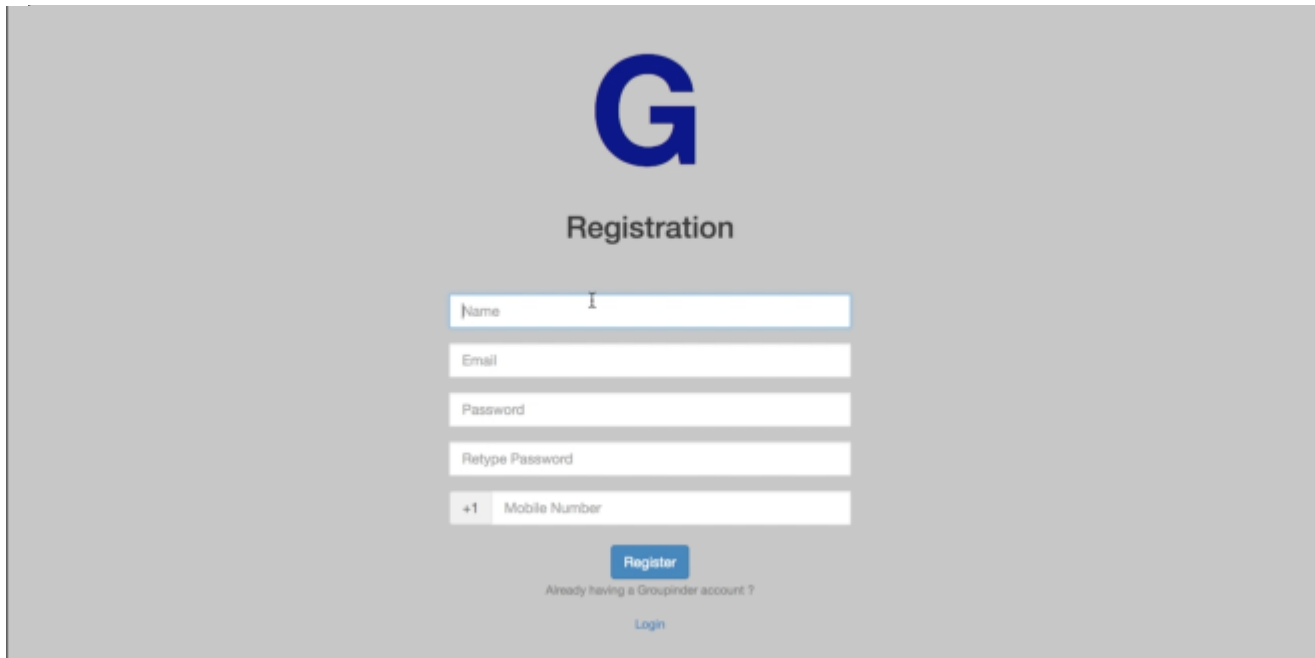
The WebApp can be run on any operating system, Desktop, phones and tablets with internet access and users with valid email ids.

3. External Interface Requirements

3.1 User Interfaces

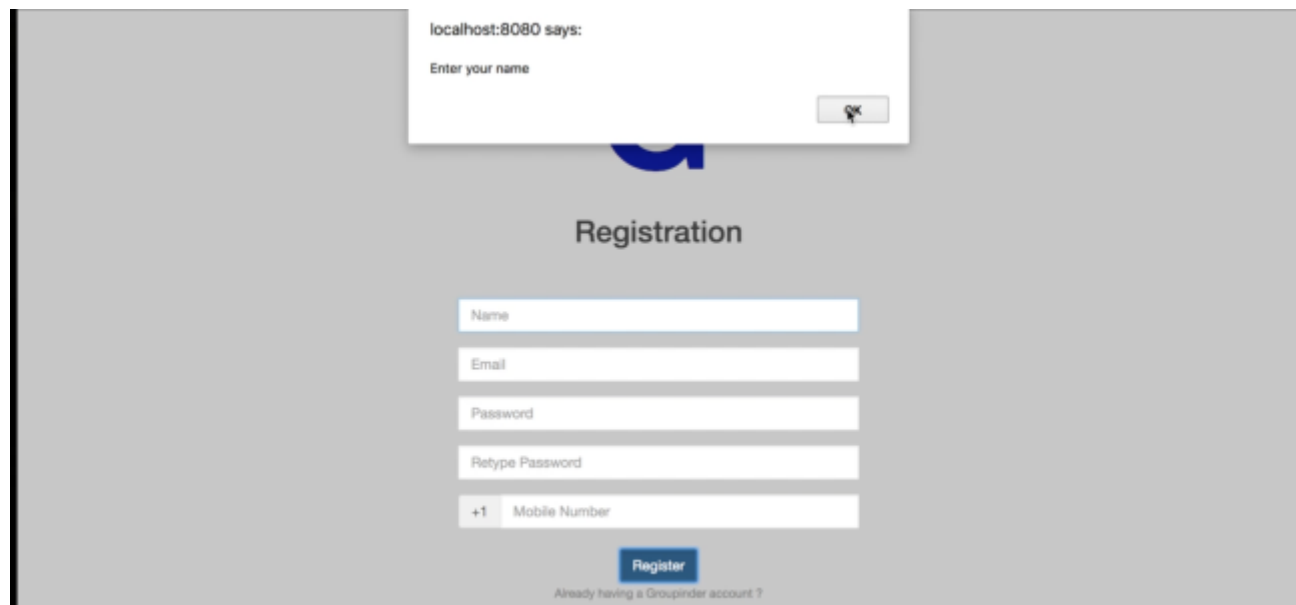


Figure 1 Login page



The screenshot shows a registration page for 'Groupinder'. At the top center is a large blue 'G' logo. Below it is the word 'Registration' in a bold, black font. The registration form consists of several input fields: 'Name', 'Email', 'Password', 'Retype Password', and a 'Mobile Number' field with a '+1' country code selector. A blue 'Register' button is positioned below the form. Below the button, there is a link that says 'Already having a Groupinder account ?' followed by a 'Login' link.

Figure 2 Registration Page



This screenshot shows the same registration page as Figure 2, but with a validation modal open. The modal is a white box with a grey border and a close button in the top right corner. It contains the text 'localhost:8080 says:' followed by 'Enter your name'. The 'Name' input field in the background form is highlighted with a blue border, indicating it is the source of the validation error.

Figure 3 Validation for name

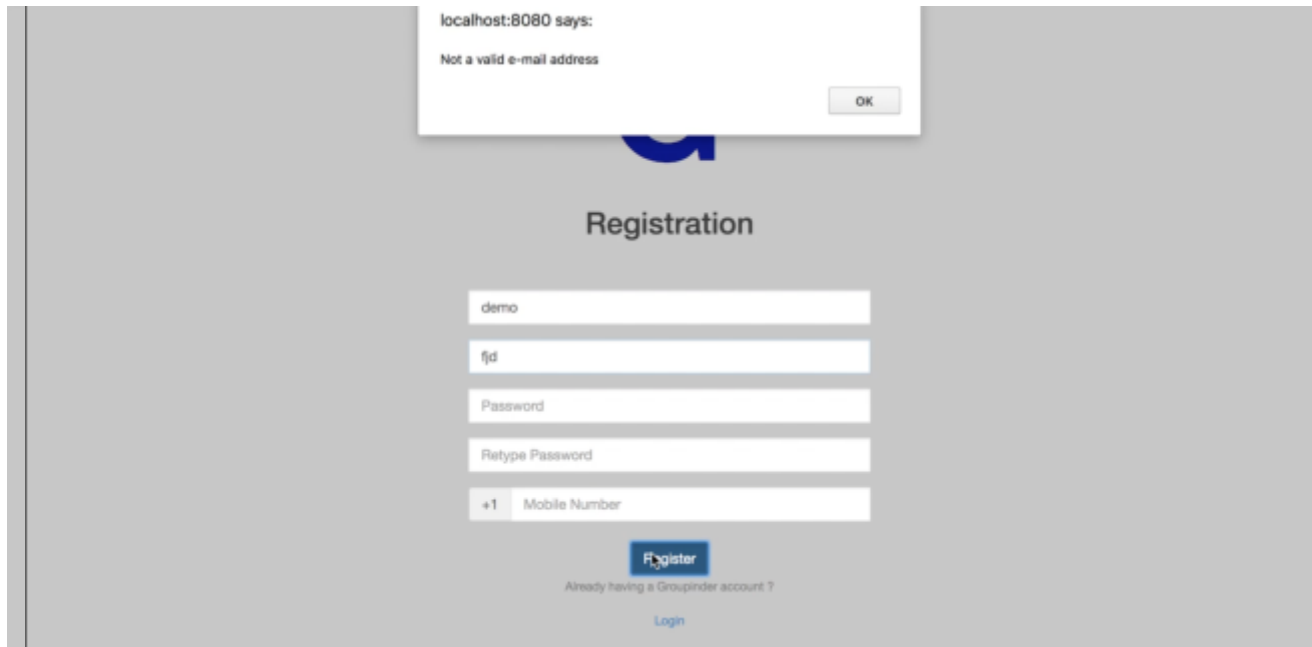


Figure 4 Validation for email

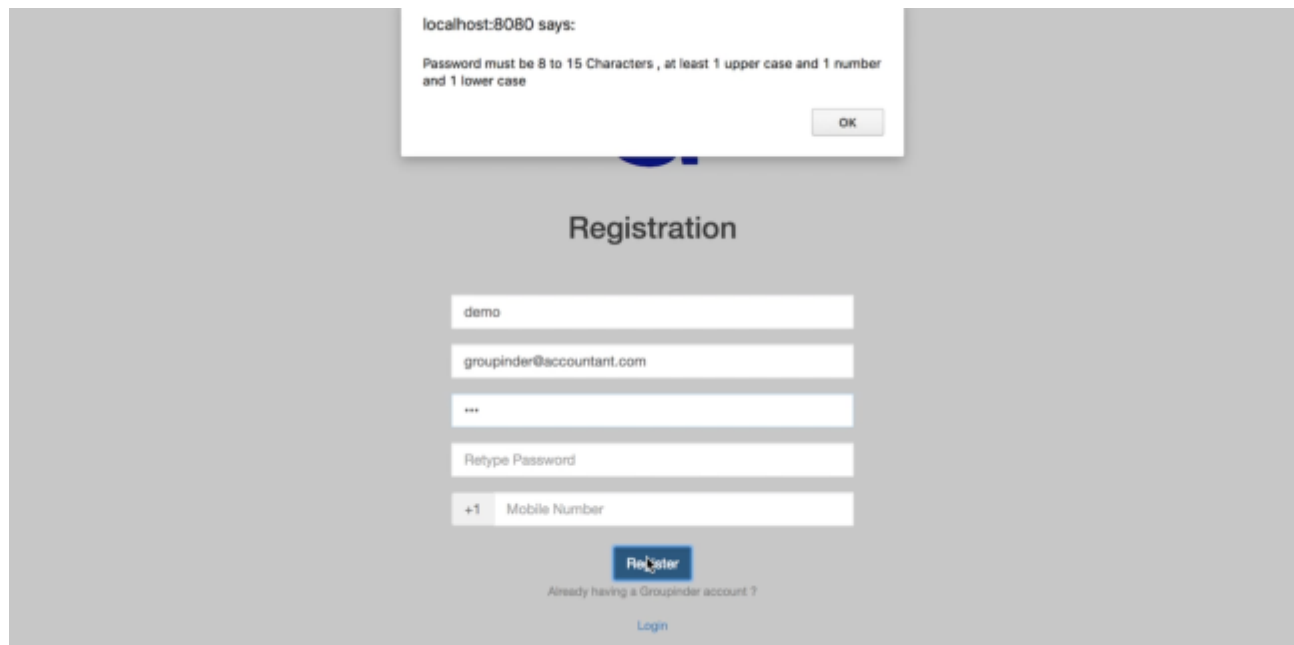
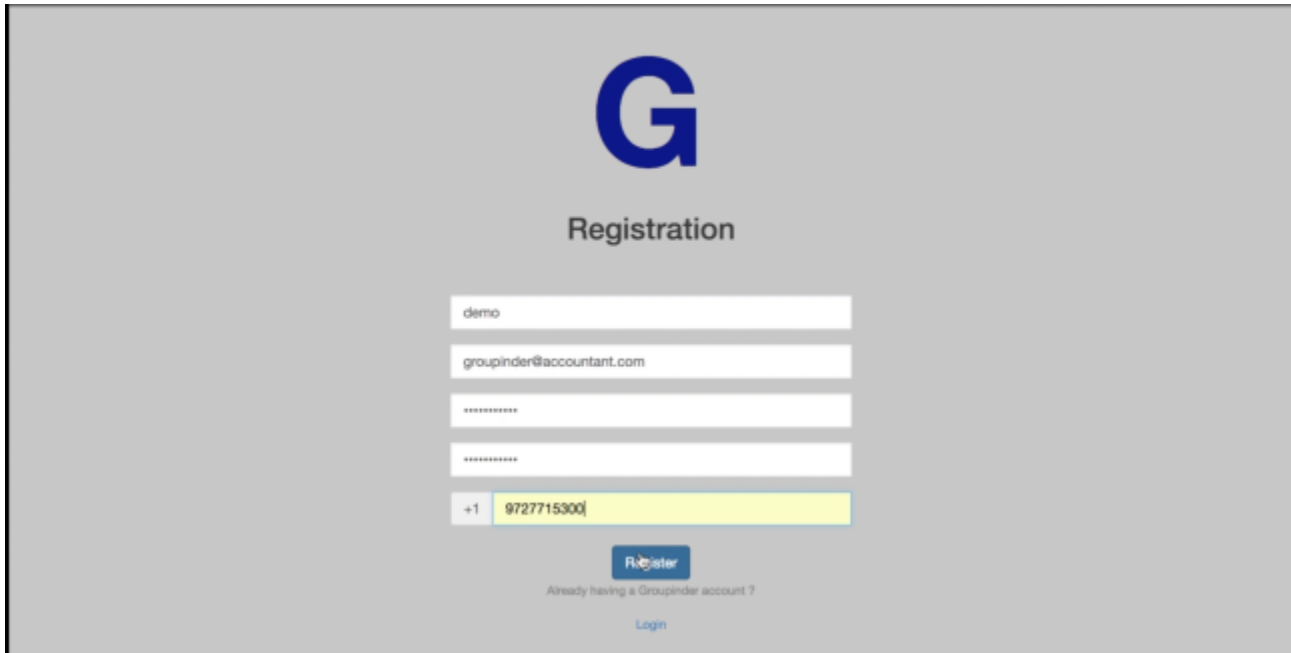


Figure 5 Validation for password



The image shows a user registration form for a website called 'Groupinder'. At the top center is a large blue letter 'G' logo. Below the logo, the word 'Registration' is written in a bold, black, sans-serif font. The form consists of several input fields stacked vertically. The first field contains the text 'demo'. The second field contains the email address 'groupinder@accountant.com'. The third and fourth fields are password fields, each containing a series of dots to represent masked characters. The fifth field is a phone number field, with a small box containing '+1' and a larger box containing the number '9727715300'. Below these fields is a blue button with the word 'Register' in white. Underneath the button, there is a link that says 'Already having a Groupinder account ?' followed by a 'Login' link.

G

Registration

demo

groupinder@accountant.com

.....

.....

+1 9727715300

Register

Already having a Groupinder account ?

Login

Figure 6 User Registration



Figure 7 User Login

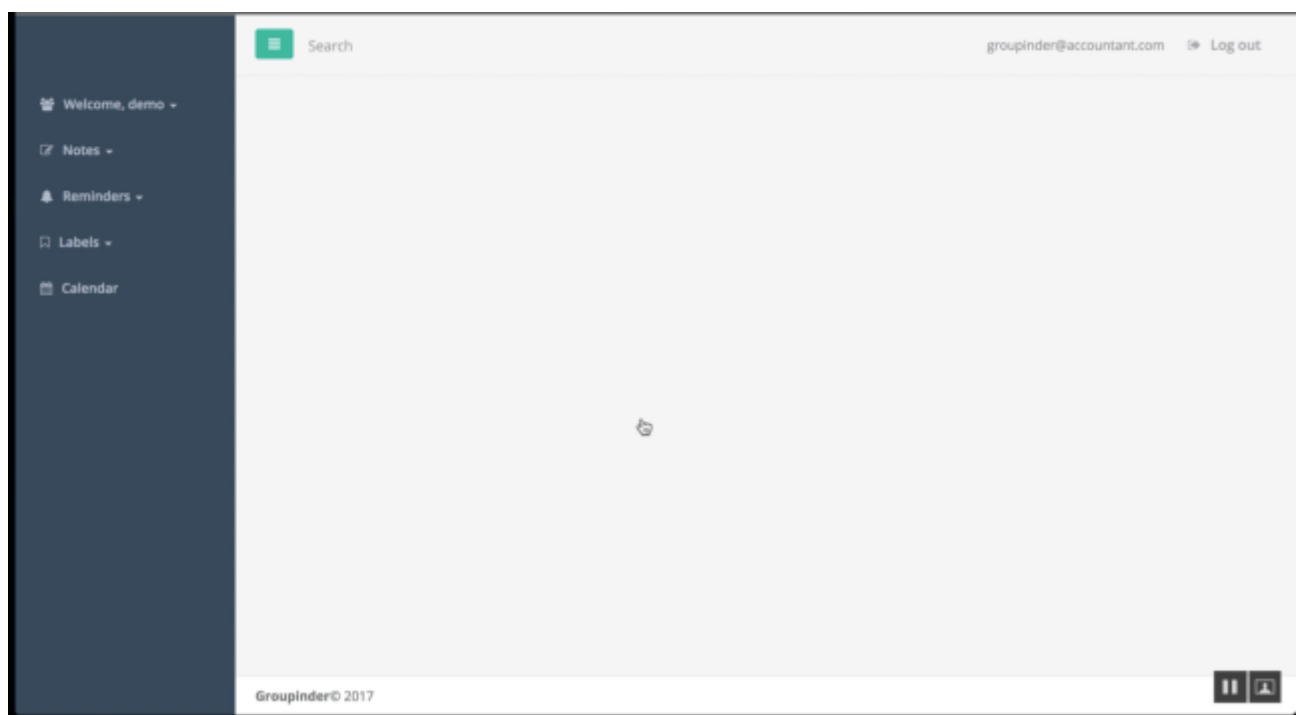


Figure 8 Home Page

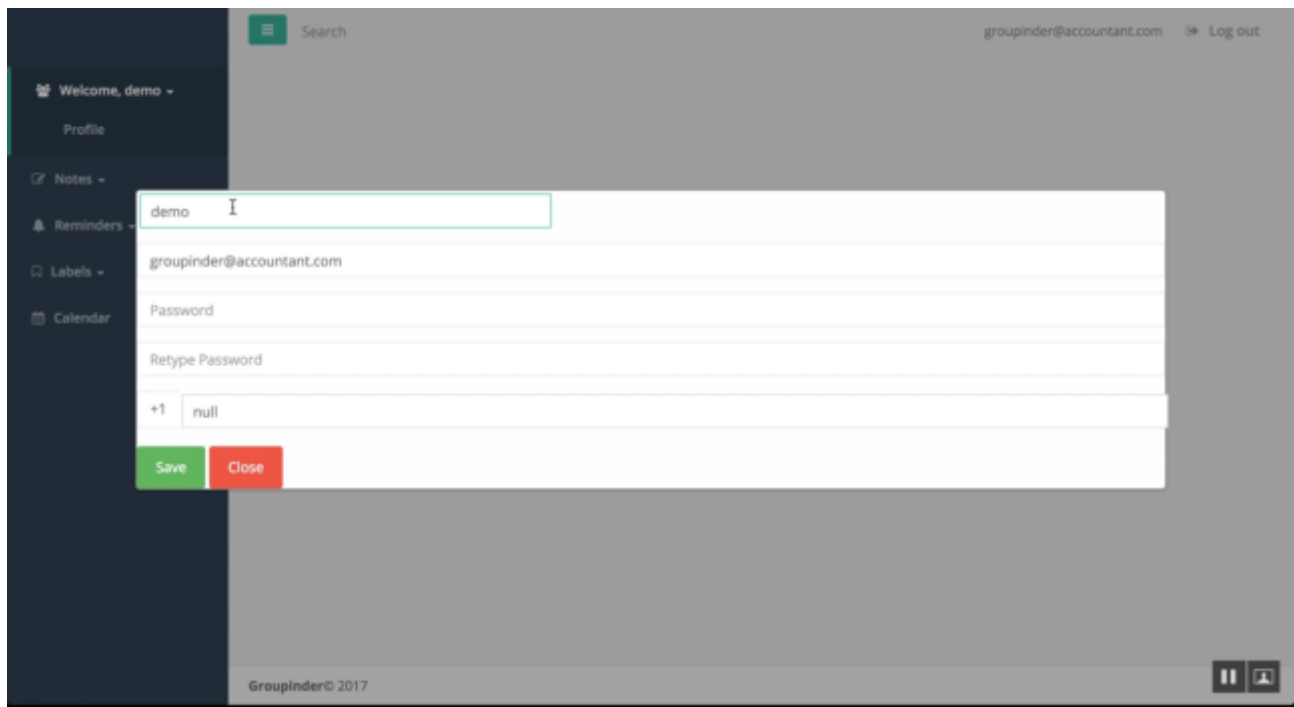


Figure 9 User Edit profile

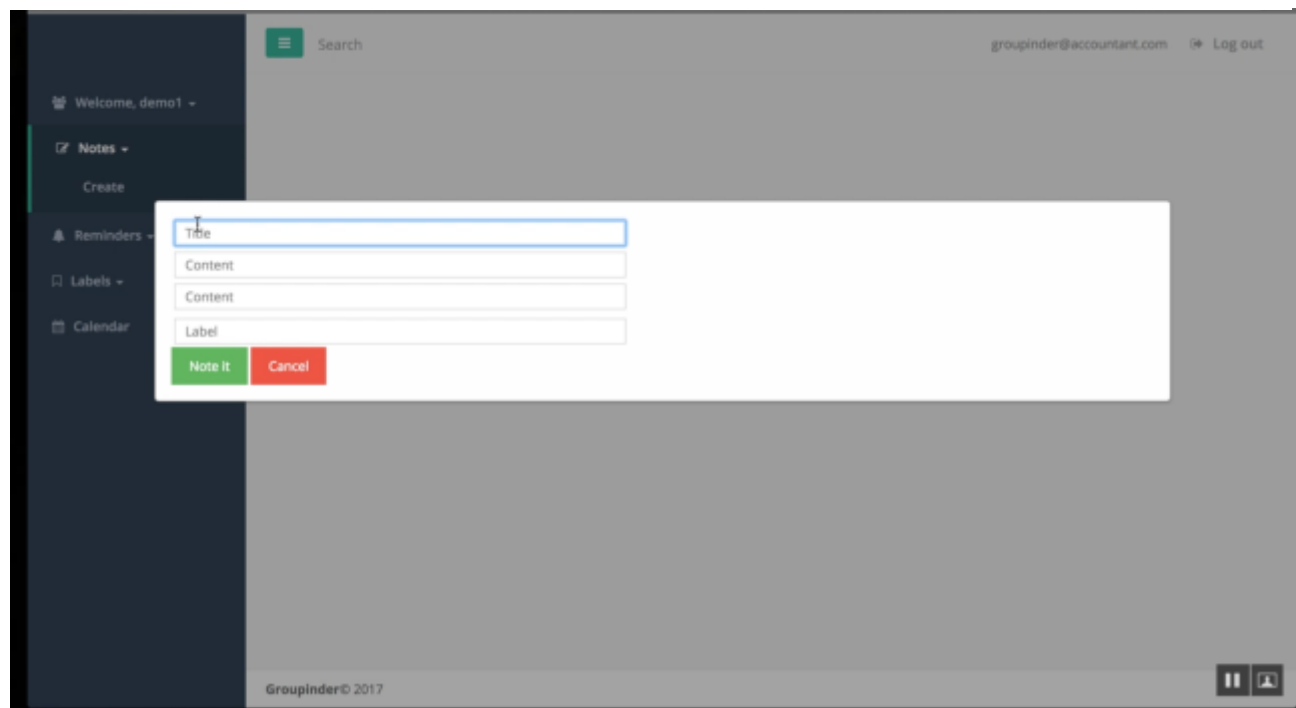


Figure 10 user Creating a note

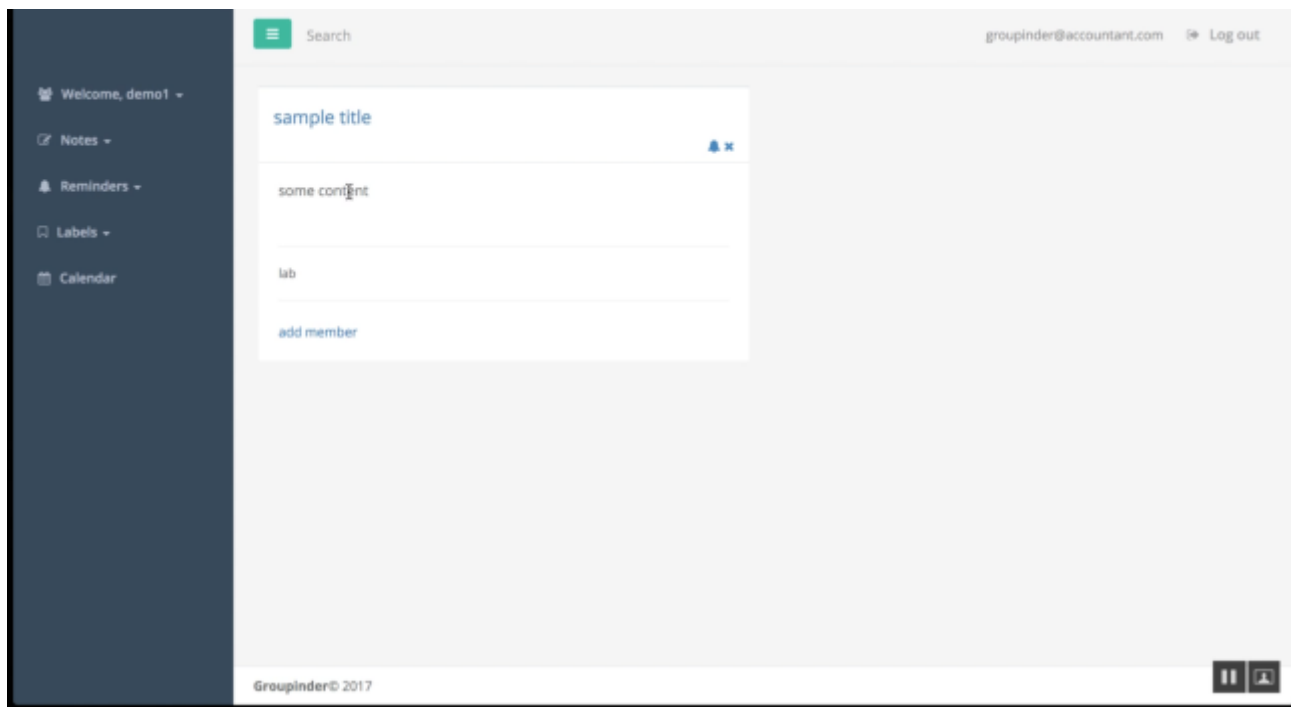


Figure 11 New note created

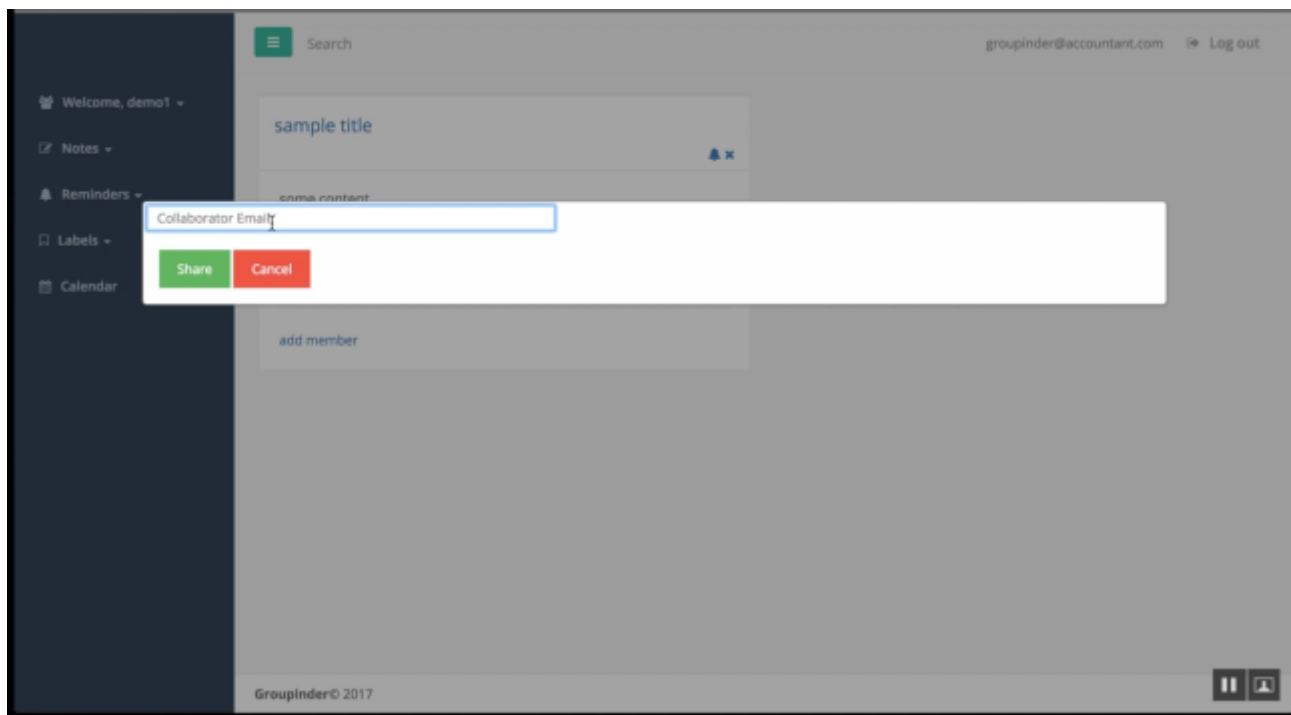


Figure 12 Adding another user

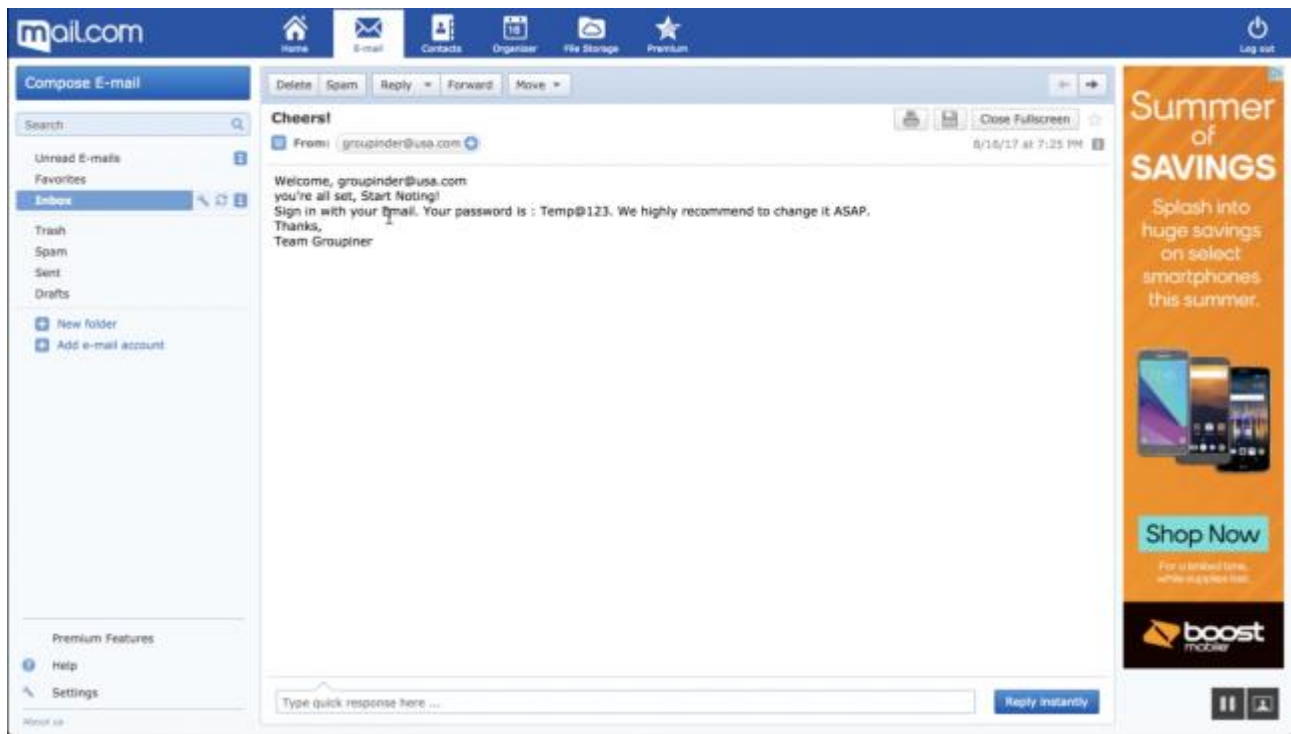


Figure 13 Collaborator gets an email

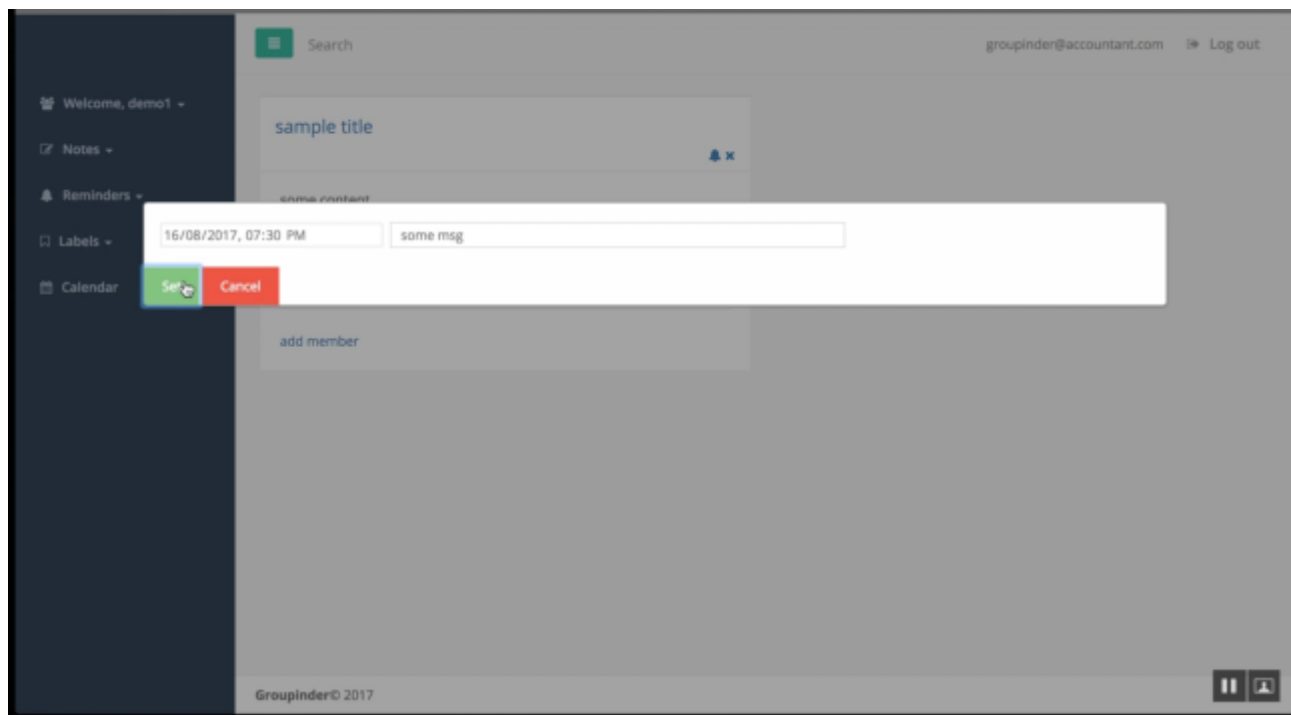
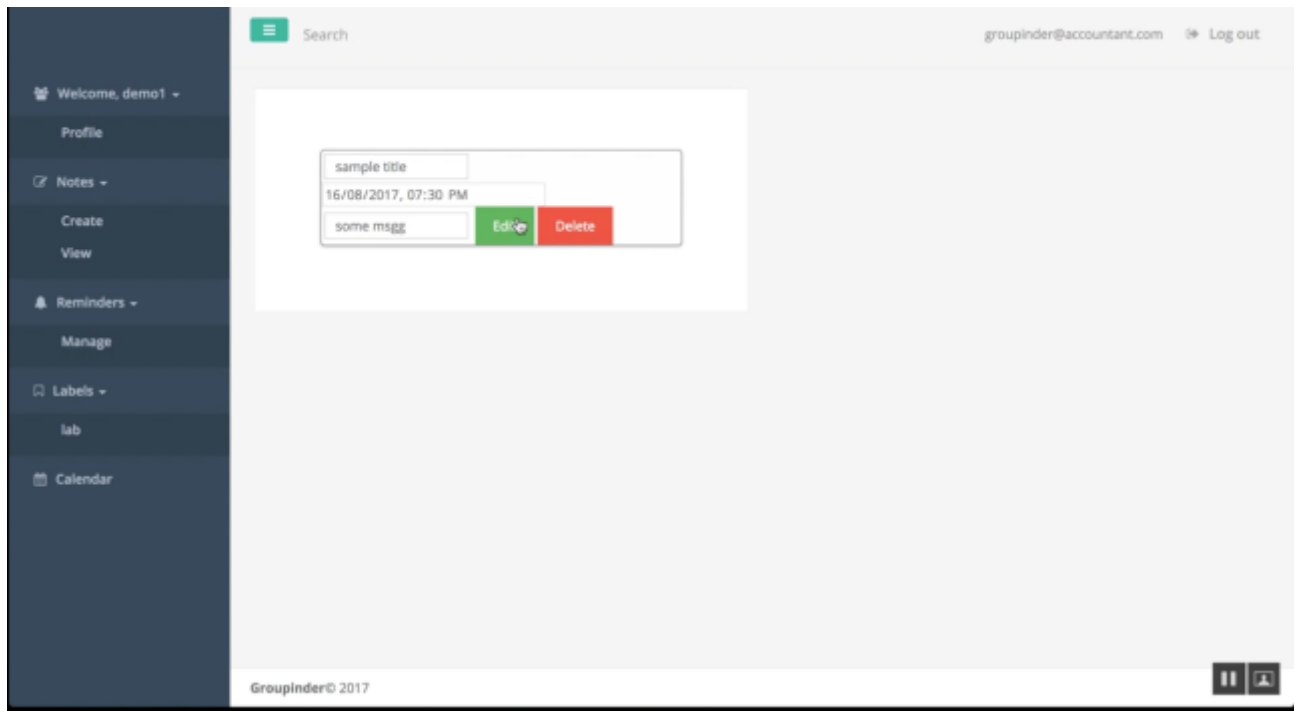
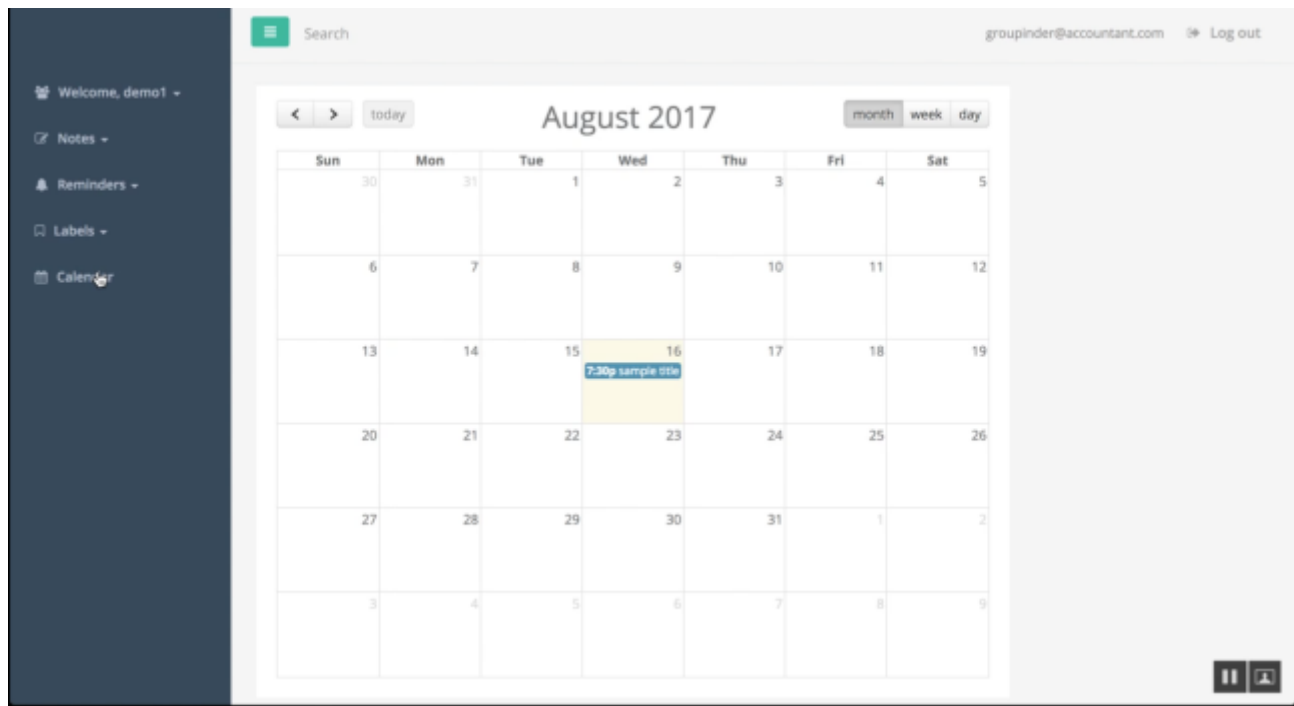


Figure 14 Setting a reminder

*Figure 15 View and edit reminders**Figure 16 Calendar monthly view*

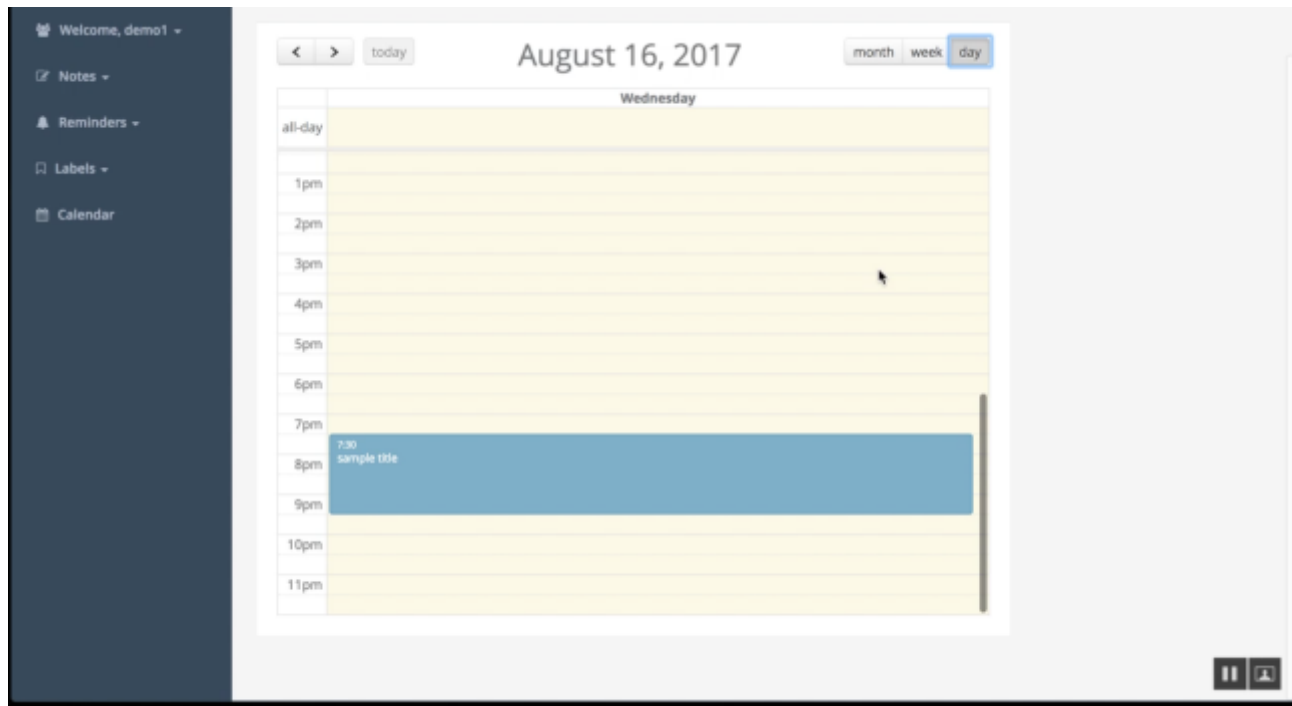


Figure 17 Calendar day view

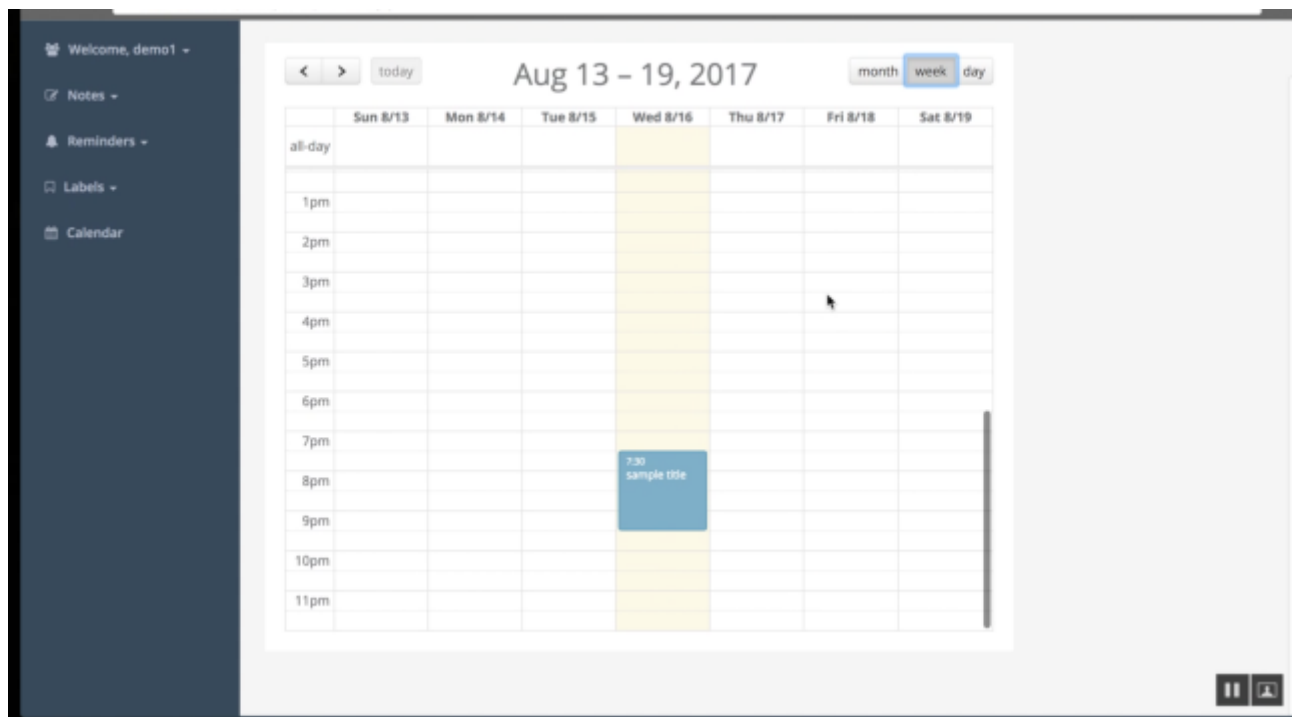


Figure 18 calendar weekly view

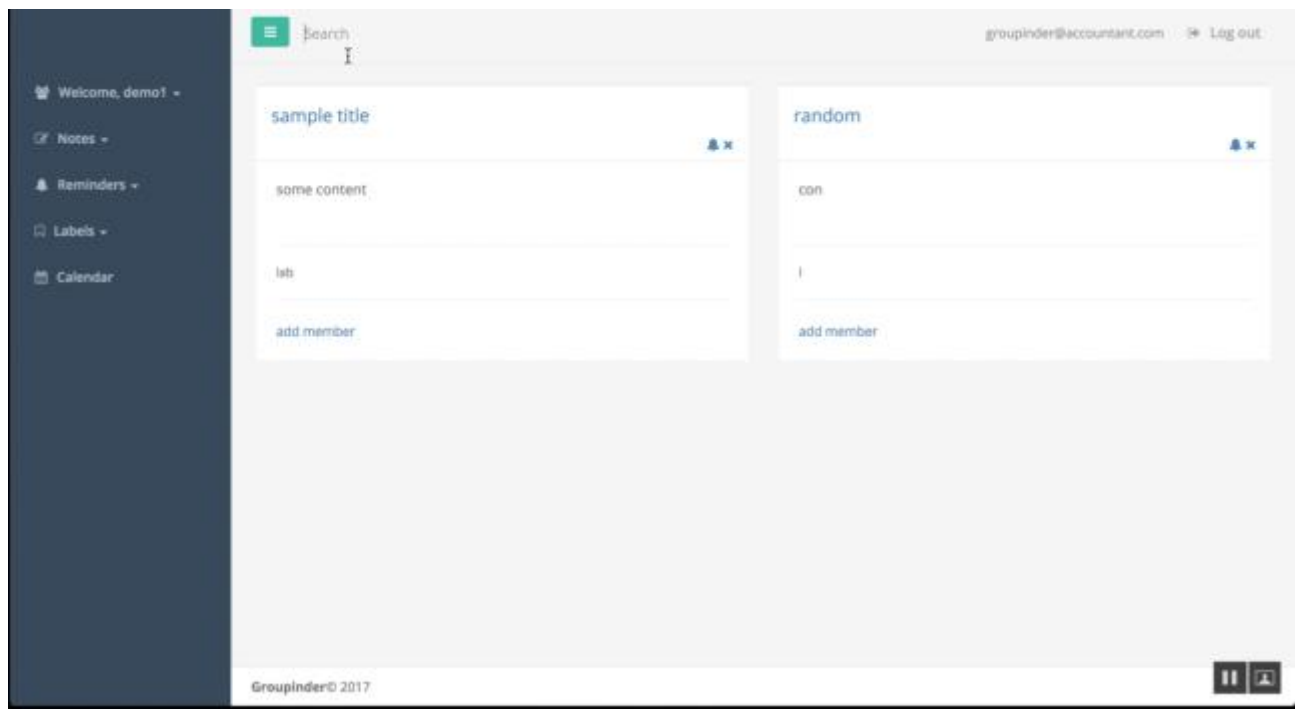


Figure 19 Multiple notes

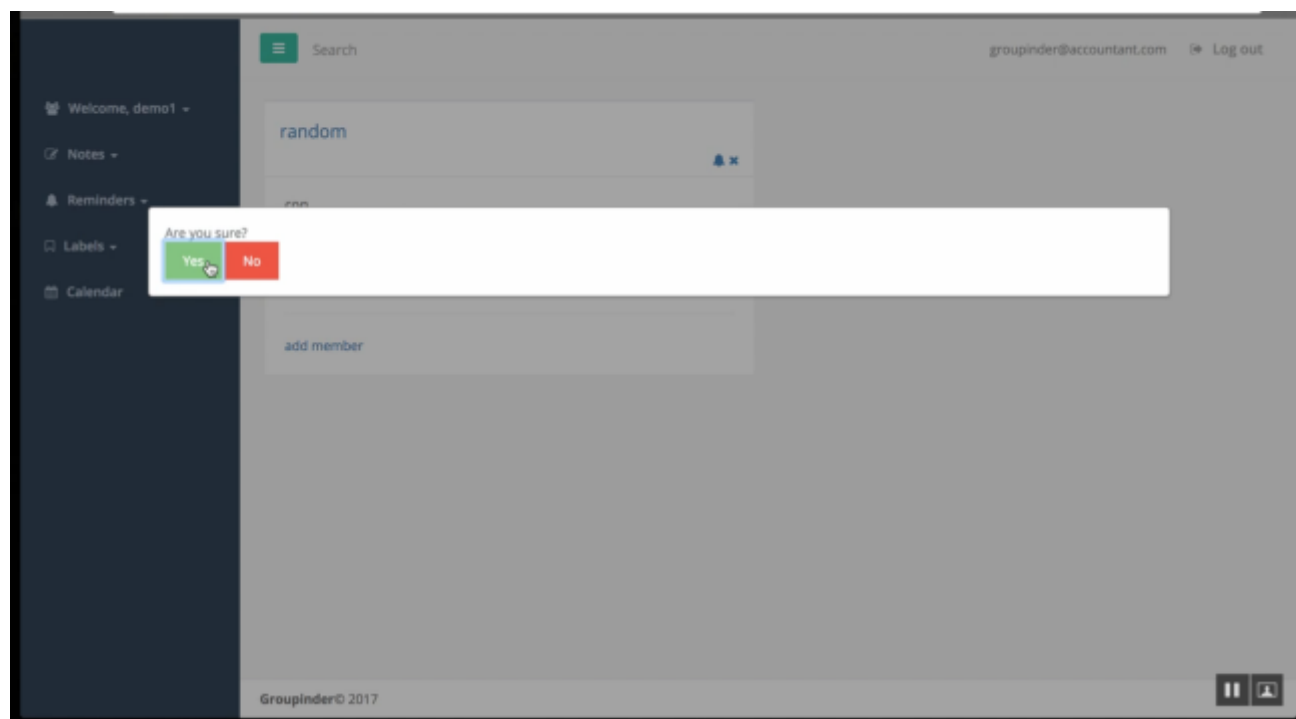


Figure 20 Notes can be deleted

3.2 Logical and Physical Schema

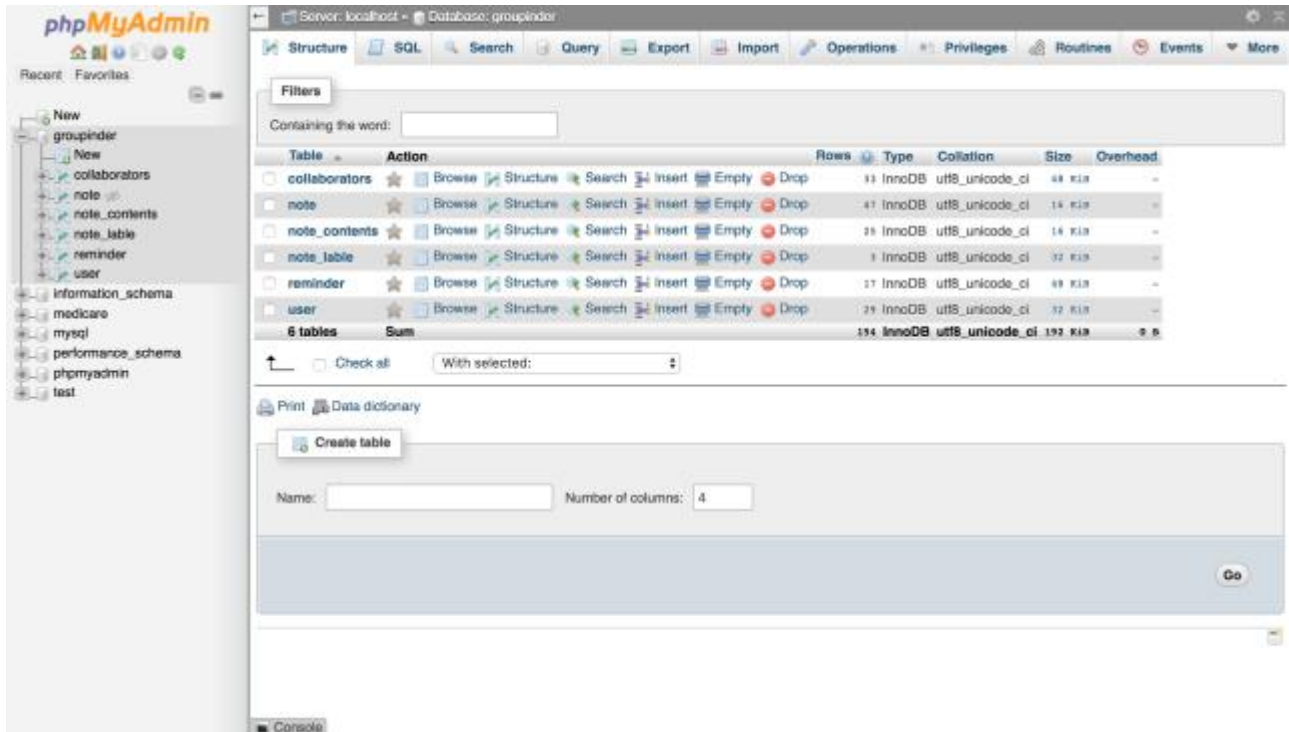


Figure 21 Physical schema

[Click here for Logical schema](#)

3.2 Hardware Interfaces

The web Application can run all the platforms and devices such as laptops, PC, mobile phones and tablets. The communication protocol used is HTTP post to make it more secure and SMTP server for sending emails.

3.3 Software Interfaces

The web application uses the following technologies:

- Eclipse IDE Neon.3 for the development

- Core Java for the development
- MySQL using phpMyAdmin for the database
- The database is connected to the application by using JDBC (Java database connectivity)
- Servlet, JSP, HTML, CSS, Javascript and Bootstrap for the user interface
- Apache tomcat v8.0 for running the application on server
- We have used the HTTP doPost methods in all our servlets and JSP pages to make it more secure on the browser
- We have also implemented the AES Encryption to ensure password security.

3.4 Communications Interfaces

- The Web Application Groupinder is run on web browsers and is compatible on all platforms. The users are required to login or register through their email ID's to proceed further.
- We have used the HTTP doPost methods in all our servlets and JSP pages to make it more secure on the browser
- SMTP for sending emails to users.
- We have also implemented the AES Encryption to ensure password security.

4. System Features

4.1 System Feature 1: Login

4.1.1 Description and Priority

The Login feature helps the user to sign in the application, provided the user is already registered

Priority: High (9), as the user cannot use the application without signing in and the application also authenticates the user.

4.1.2 Stimulus/Response Sequences

- Sign in feature shows up as soon as the web application starts
- The user must provide already registered username and password
- Once the application authenticates the user, he or she can access the home page which provides other features to use.

4.1.3 Functional Requirements

- REQ-1: The application should have the Sign in page with text fields to enter the username and password
- REQ-2: The user should be able to write the user name and password specifically in asterisk to provide security of details.
- REQ-3: In case the user enters invalid username or password, he or she is prompted saying it is invalid and is asked to enter again
- REQ-4: In case the user is not registered, he or she is prompted to sign in first and enter all the details to sign in which is the second system feature
- REQ-5: Once all this is done, user is redirected to the home page showing other features of the application.

4.2 System Feature 2: Register

4.2.1 Description and Priority

The Register feature helps the user to register first if the user does not have an account by providing his details and creating an account

Priority: High (9), as the user first must create an account before using the application so that user can access the application anytime.

4.2.2 Stimulus/Response Sequences

- Register feature is given just below the sign in feature for user to create an account if he doesn't have one already
- The user must provide all the details required to create an account.
- Once the application authenticates all the user details, an account is created with the username and password
- The user can now login with the details and sign in the application.

4.2.3 Functional Requirements

- REQ-1: The application should have the Register option with text fields to enter the details
- REQ-2: The user should be able to sign in once the account with the details is created.
- REQ-3: In case the user enters invalid username or password, he or she is prompted saying it is invalid and is asked to enter again

- REQ-4: In case the user is not registered, he or she is prompted to sign in first and enter all the details to sign in which is the second system feature
- REQ-5: Once all this is done, user is redirected to the home page showing other features of the application.

4.3 System Feature 3: Manage Notes (Create, Delete, Edit, View Set Color)

4.3.1 Description and Priority

Once the user can register or log in, he or she can Create, Delete, Edit, View or give different colors to the notes for their own use and save information for later purpose.

Priority-

Create Note: High (9) The user must create notes to save information and access it later when needed.

Delete Note: High (9) The user must be able to delete note

4.3.2 Stimulus/Response Sequences

- Register feature is given just below the sign in feature for user to create an account if he doesn't have one already
- The user must provide all the details required to create an account.
- Once the application authenticates all the user details, an account is created with the username and password
- The user can now login with the details and sign in the application.

4.3.3 Functional Requirements

- REQ-1: The user should be able to sign in once the account with the details is created.
- REQ-2: In case the user enters invalid username or password, he or she is prompted saying it is invalid and is asked to enter again
- REQ-3: Once the user signs in, he can view his already created notes, or create and Delete the notes, make labels for the notes and color them based on priority
- REQ-4: The user can then add collaborators or set reminders accordingly which will be shown in calendar view.

REQ-5: The user can then continue using the application or log out

4.4 System Feature 4: Set/remove reminders for an entry in a note or full note

4.4.1 Description and Priority

Once the user can register or log in, he or she can set or remove reminders for any entry in the note.

Priority-

Set reminders: High (8) The user must be able to set reminders for entries in notes

4.4.2 Stimulus/Response Sequences

- Set reminder feature is given when the user creates a note
- The user must create a note first and then set reminders
- Once the application sets reminders, alerts are sent to the user for same.

4.4.3 Functional Requirements

REQ-1: The user should be able to set reminders once the note is created with some entries.

REQ-2: Alerts are sent to the user for the set reminder.

4.5 System Feature 5: Share notes/send invites with access rights

4.5.1 Description and Priority

Once the user can register or log in, he or she can add collaborators to their notes along with access rights for editing.

Priority-

Share Notes: High (8) The user must be able to share notes with other users

4.5.2 Stimulus/Response Sequences

- The user must be able to share the notes with others
- The user must be able to send them invites to join.
- The collaborators are given rights to edit the notes

4.5.3 Functional Requirements

REQ-1: The user should be able to add collaborators to the notes and send invites to other users

REQ-2: The collaborators are given access rights to edit the notes.

4.6 System Feature 6: Calendar View for notes and conflicts

4.6.1 Description and Priority

Once the user can register or log in, he or she can view their notes, reminders and conflicts in the calendar view.

Priority-

Share Notes: High (7) The user must be able to see the calendar view

4.6.2 Stimulus/Response Sequences

- The user must be able to see the notes, reminders in a calendar

4.6.3 Functional Requirements

REQ-1: The user should be able to view the notes and reminders together in a calendar.

5. Other Nonfunctional Requirements

5.1 Security Requirements

The password has been protected with AES encryption and the web app runs on https which makes it more secure. The functionalities have been implemented on the server side which makes it difficult for the malicious users to access. The Login and registration has been validated using Javascript.

5.2 Software Quality Attributes

The WebApp is Adaptable, available as it runs on internet, flexible, interoperable as runs on various devices and operating systems, maintainable, portable, reliable, reusable, robust and testable

5.3 Business Rules

- The user can use the WebApp if he has valid email id and has internet access.

Appendix A: Glossary

AES- Advanced Encryption Standard

WebApp- Web Application

HTML- Hypertext markup language

CSS- Cascading style sheet

JSP- Java server pages

HTTPS: Hypertext transfer protocol secure

JDBC- Java Database connectivity

IDE- Integrated Development Environment

Appendix B: Analysis Models

1) Use Case Diagram:

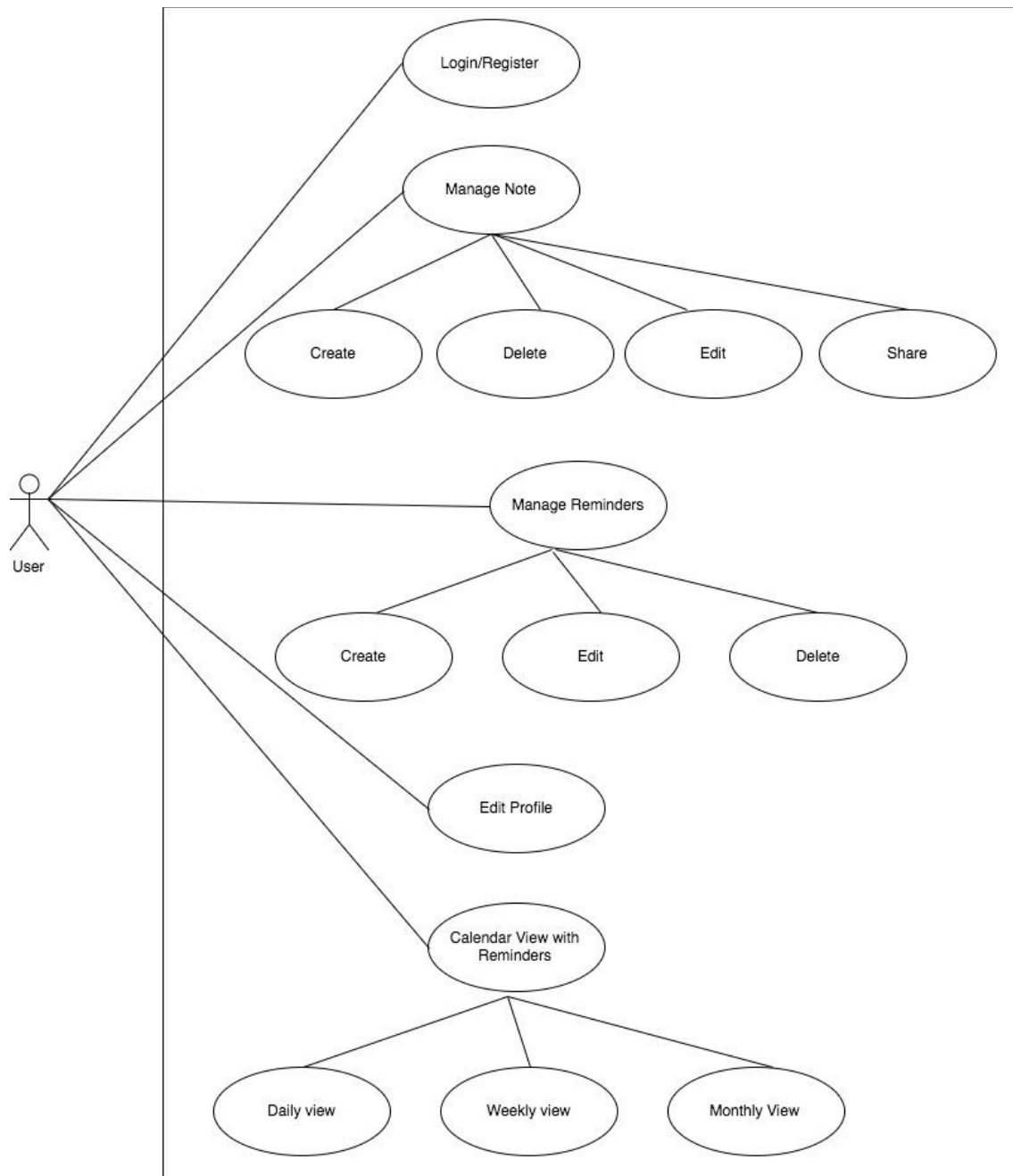


fig 1. Use case diagram

2) Class Diagrams:

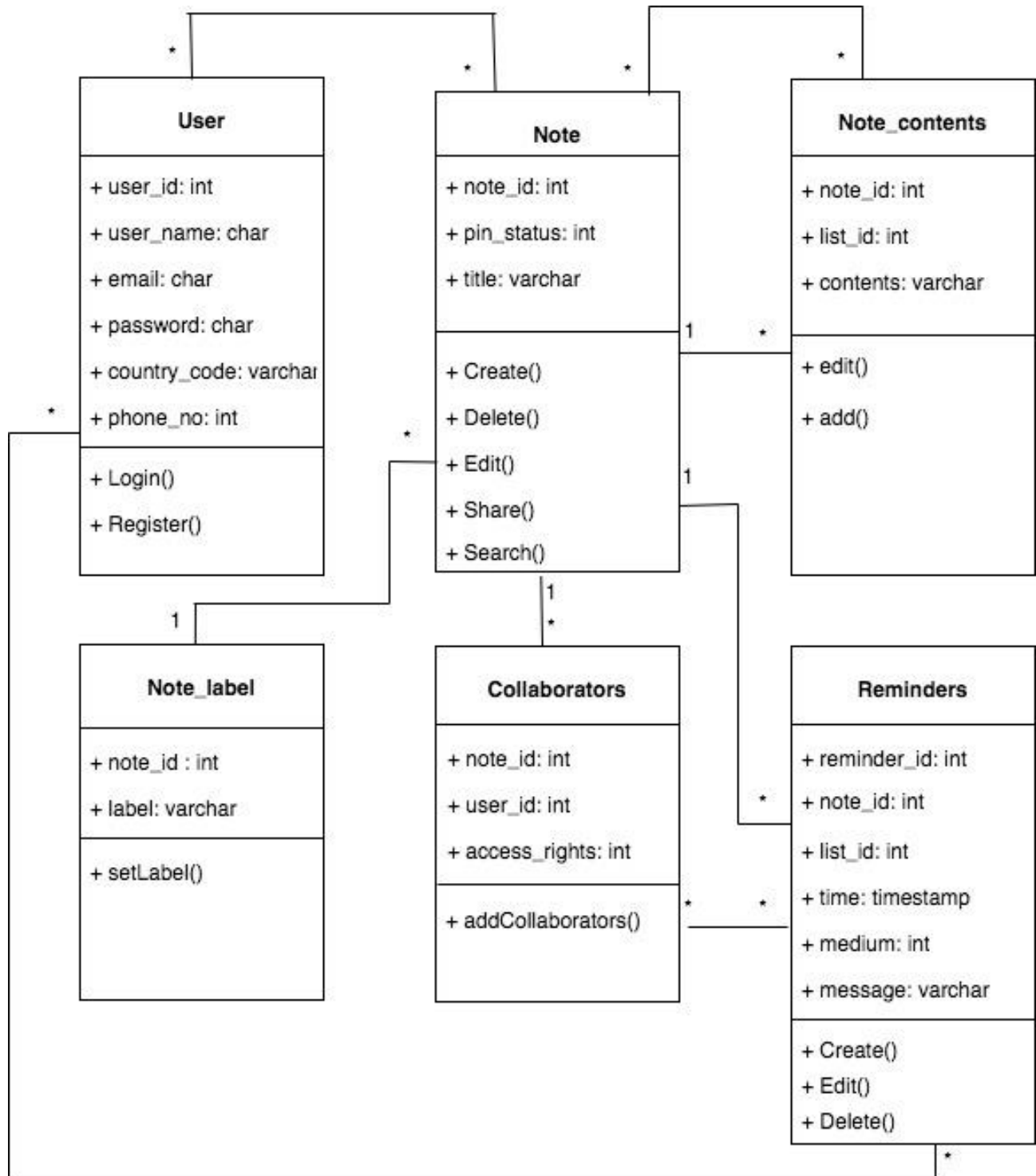


fig 2. Class diagram

3) Activity Diagram:

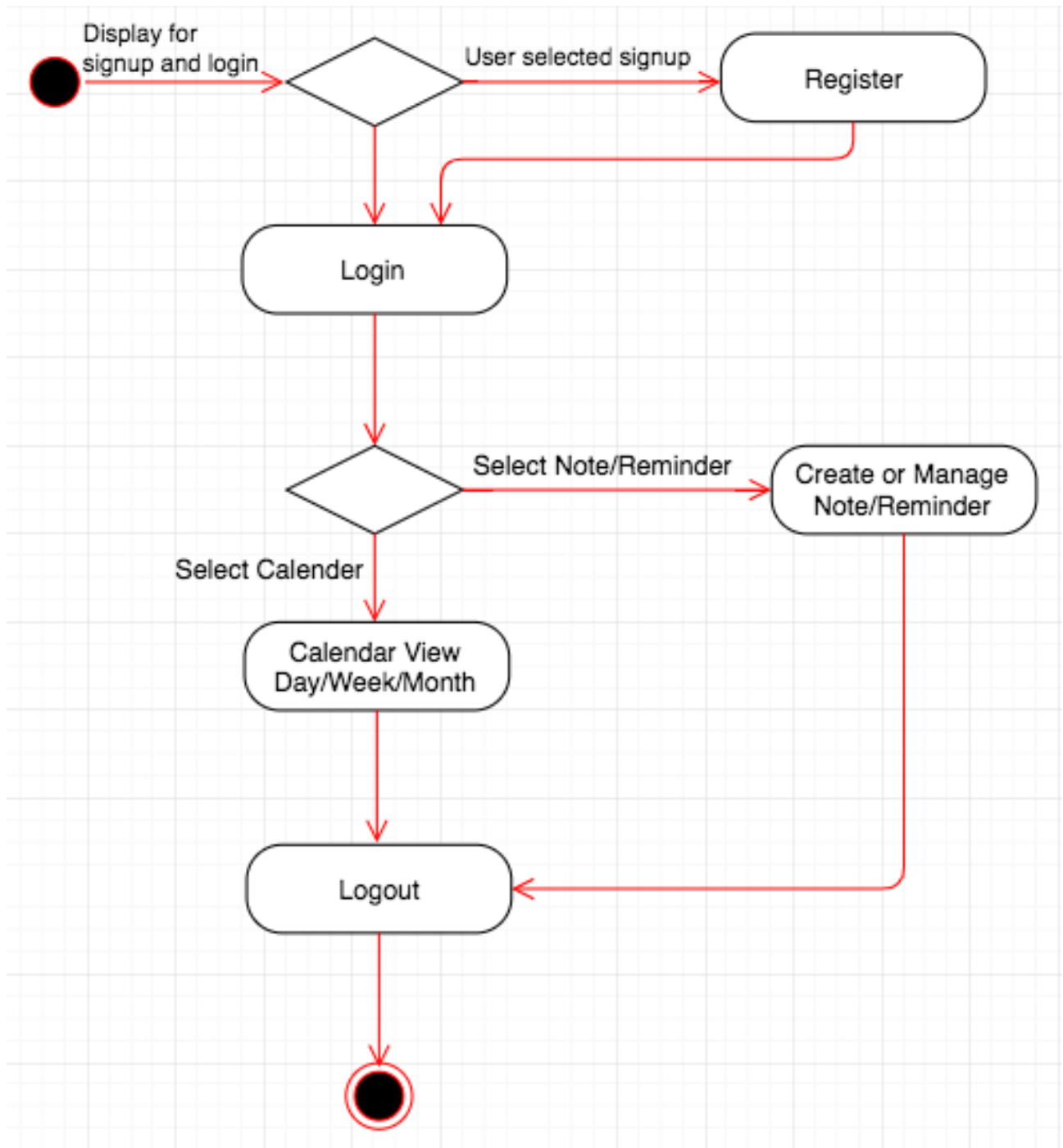
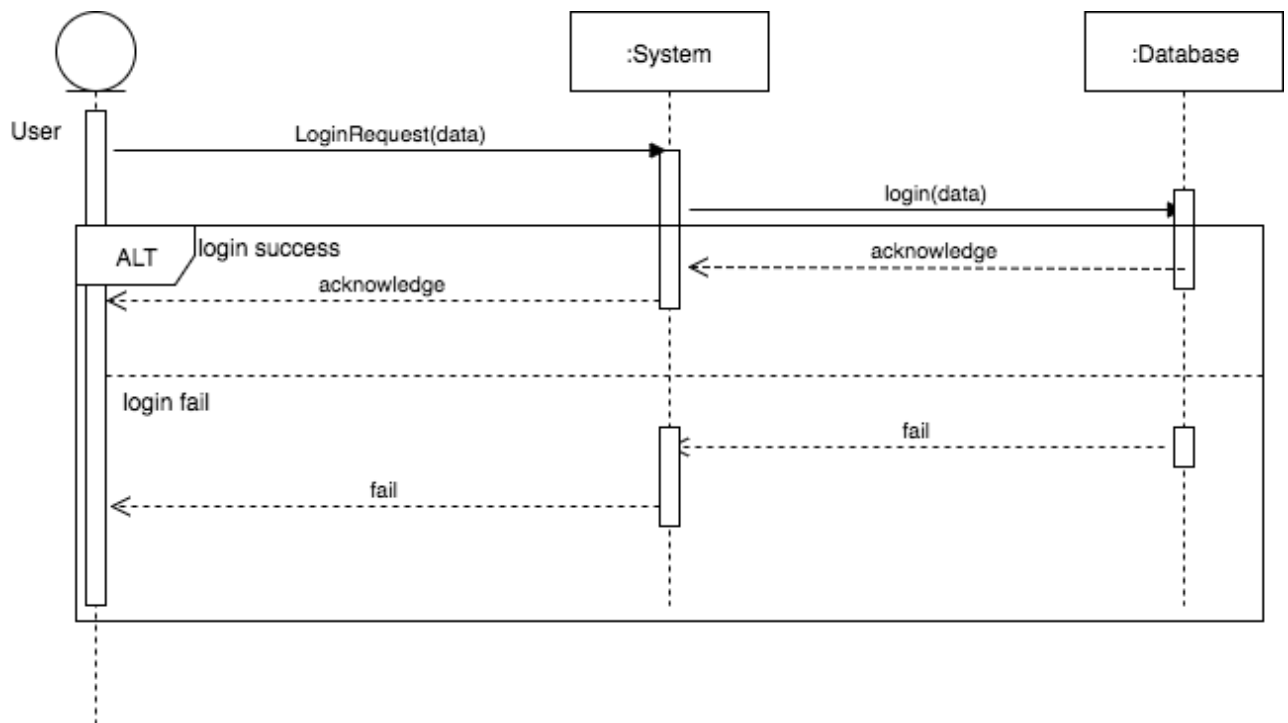
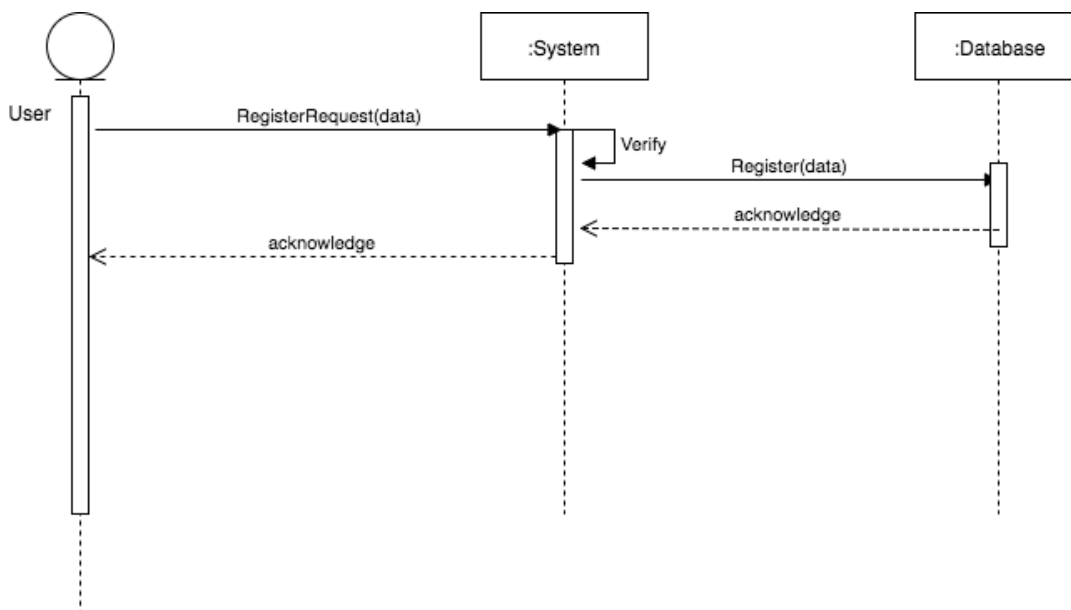
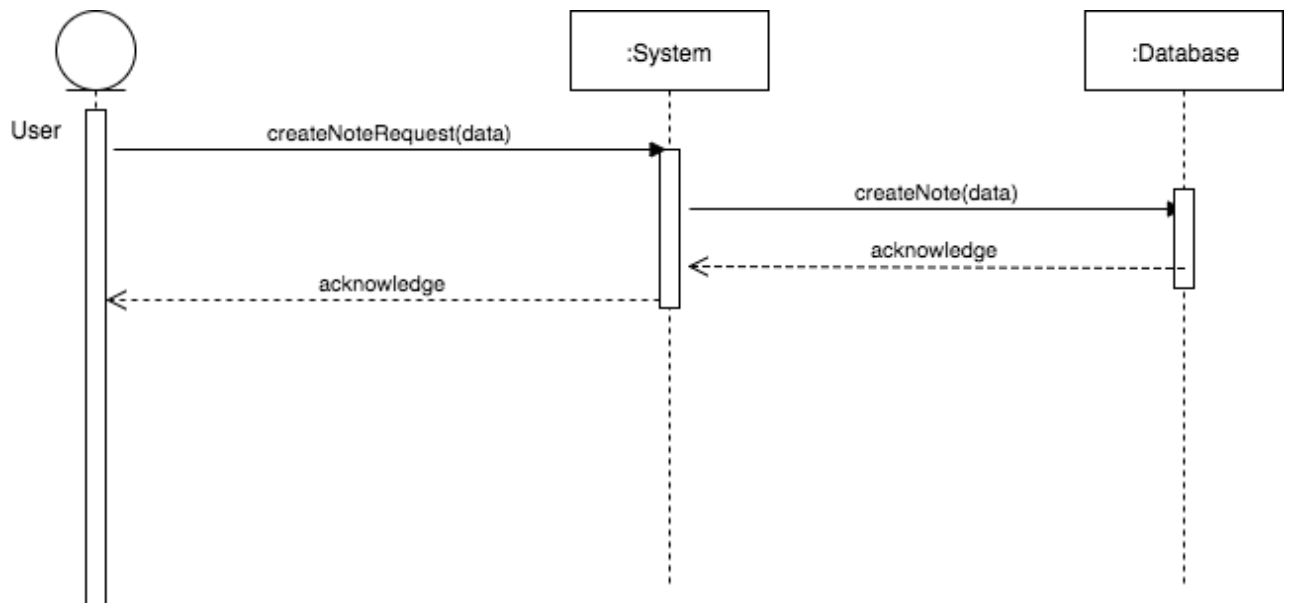
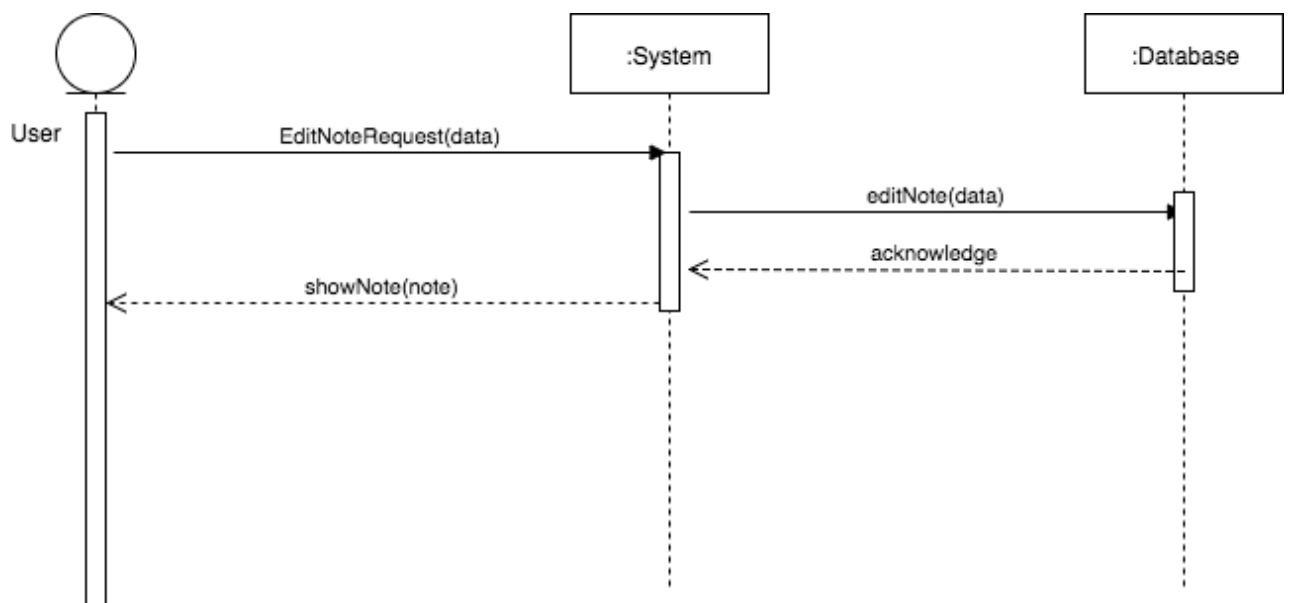
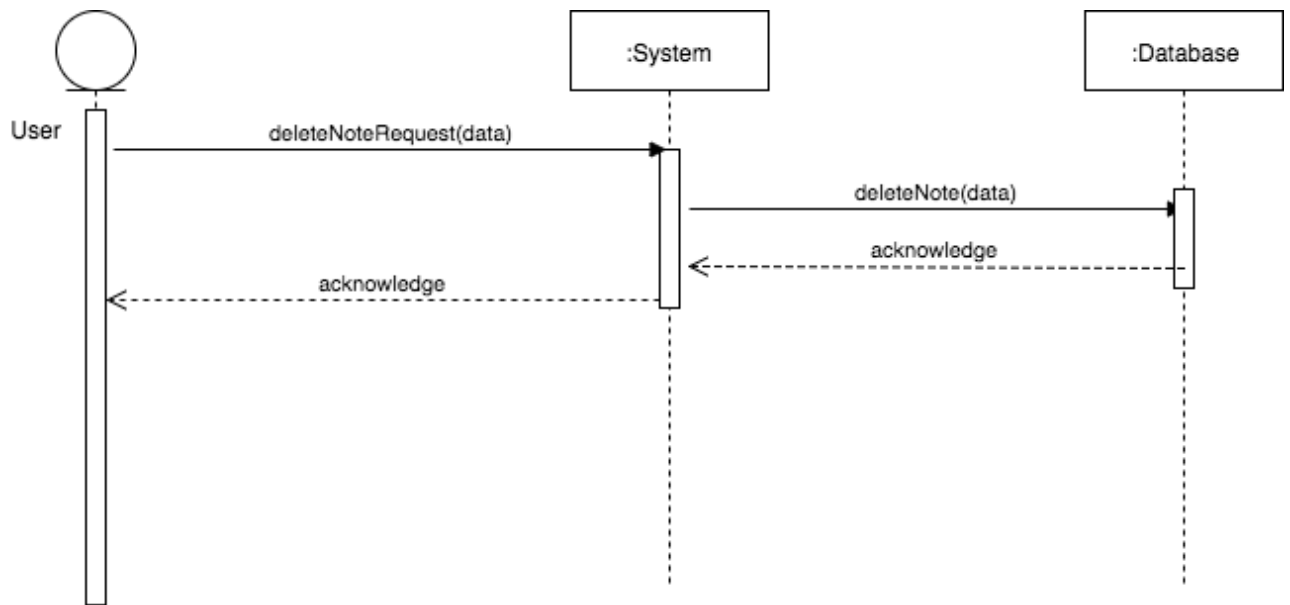
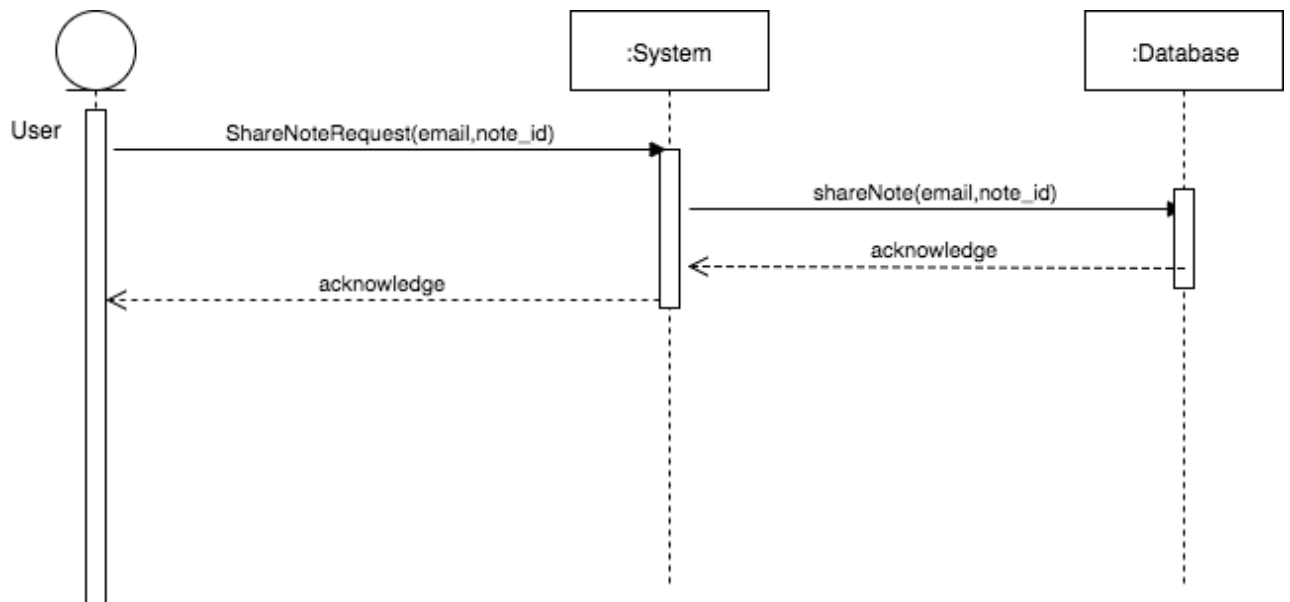


fig 3. Activity Diagram

4) Sequence Diagram:*fig 4.1 Sequence Diagram for User Login**fig 4.2 Sequence Diagram for User registration*

*fig 4.3 Sequence diagram for creating note**fig 4.4 Sequence Diagram for editing the note*

*fig 4.5 Sequence diagram for deleting a note**fig 4.5 Sequence diagram for sharing a note*

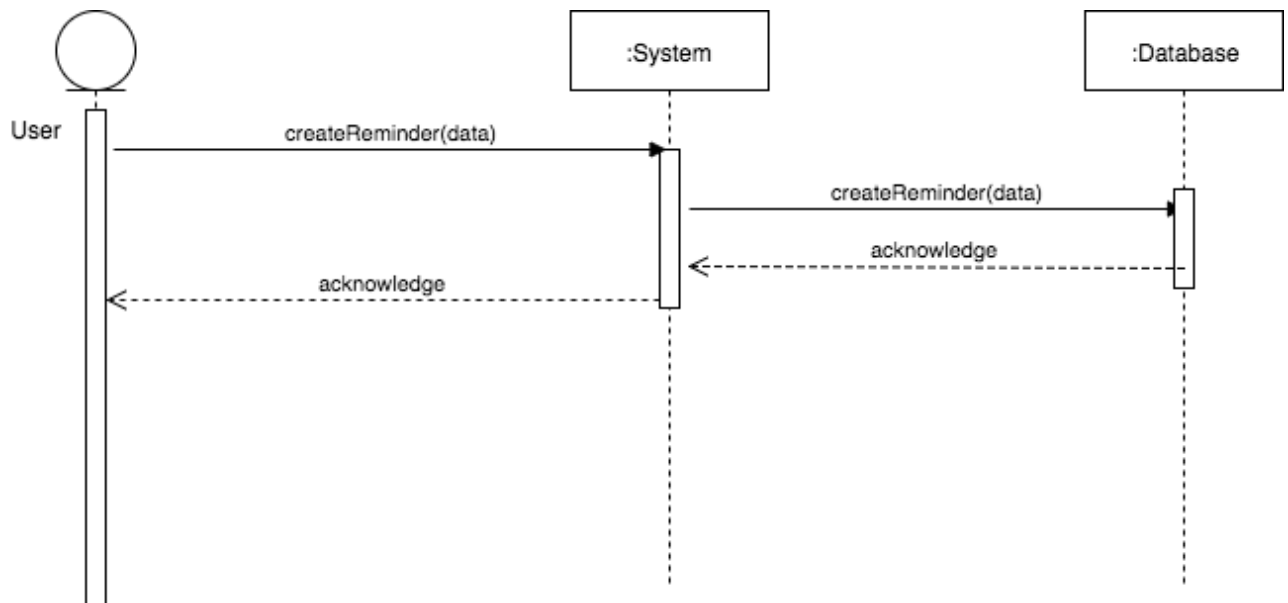


fig 4.6 Sequence diagram for creating a reminder

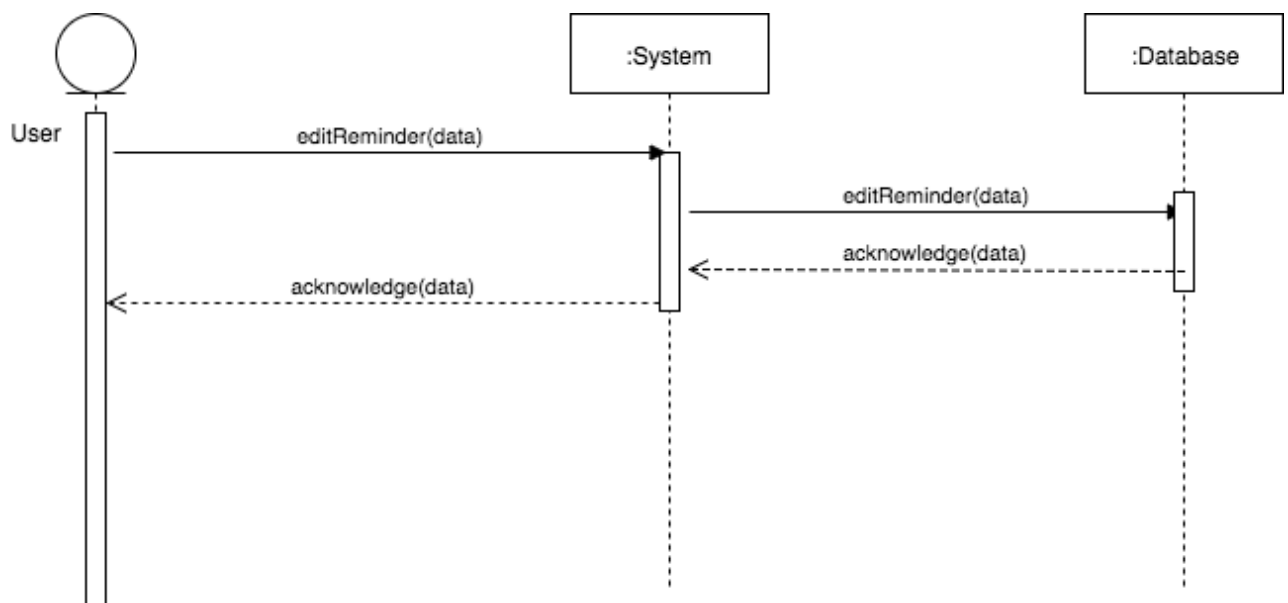


fig 4.7 Sequence diagram for editing the reminder

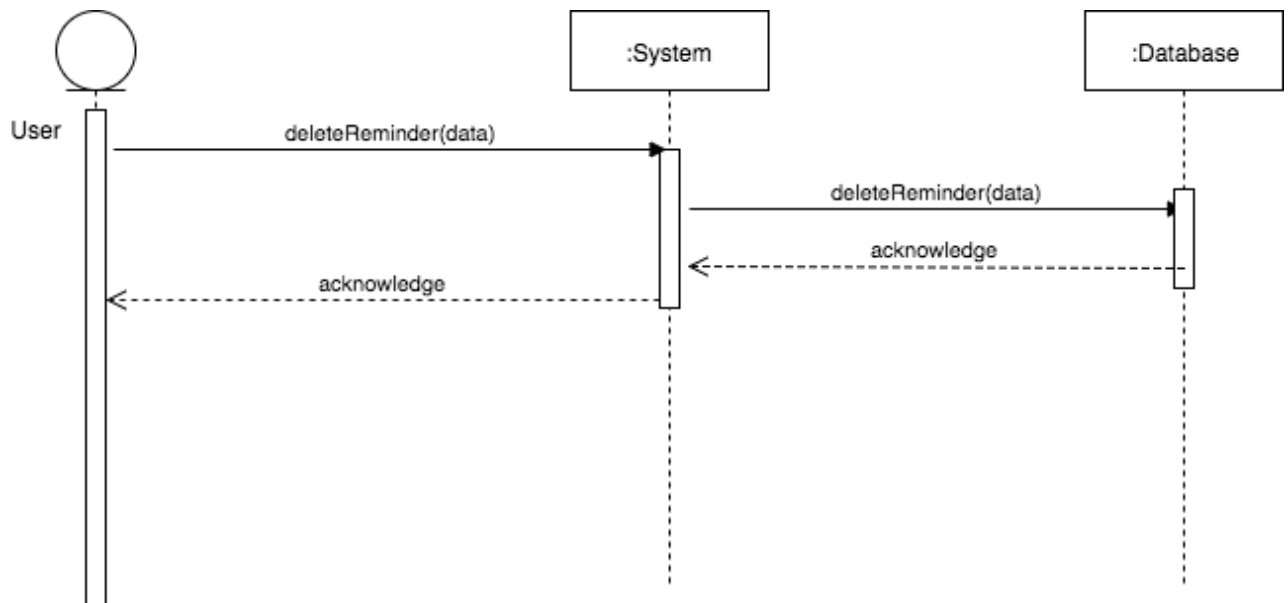


fig 4.8 Sequence diagram for deleting the reminder

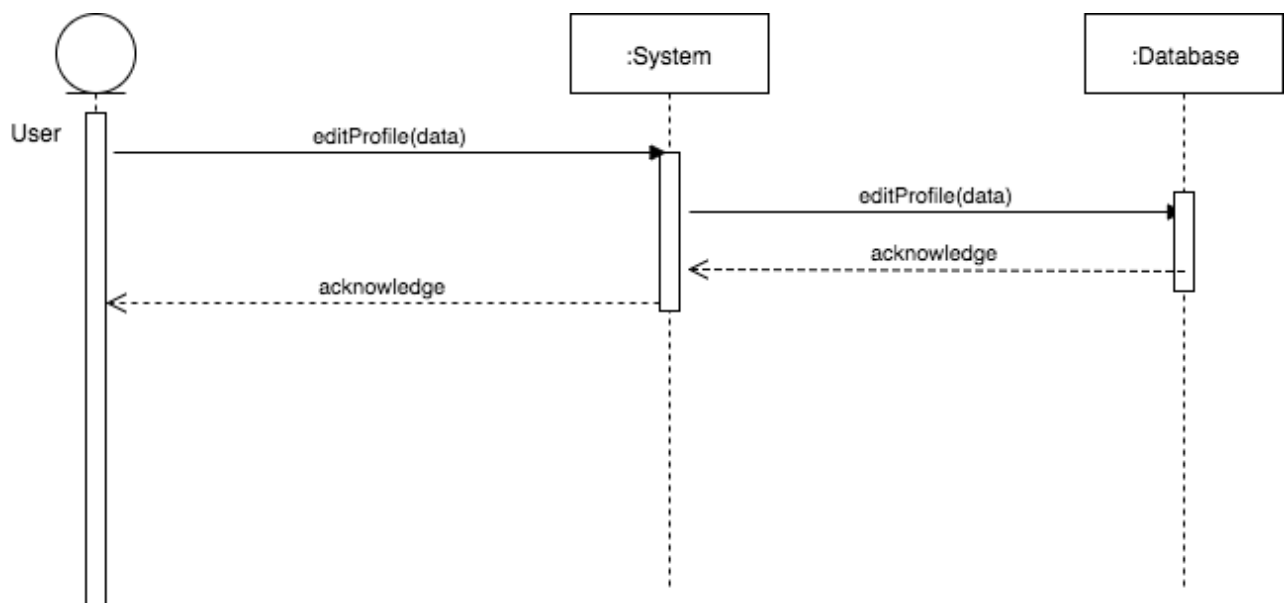


fig 4.9 Sequence diagram for editing the User Profile

Appendix C: References

- <http://getbootstrap.com/>
- <https://www.w3schools.com/>
- <https://v4-alpha.getbootstrap.com/components/>
- <https://getbootstrap.com/docs/4.0/content/>
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- <http://howtodoinjava.com/security/java-aes-encryption-example/>