

Squire: A Collaborative Software Development Tool

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Chapter 1

Overview and Scope

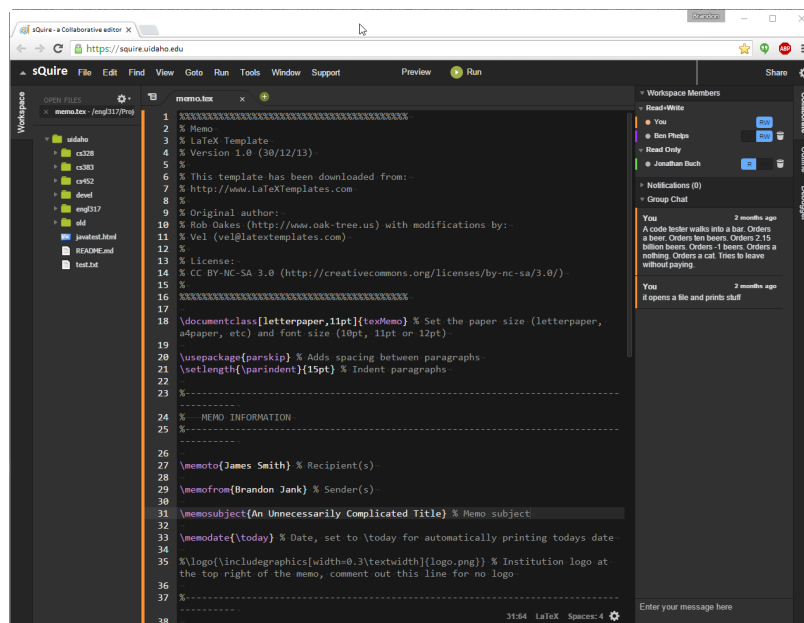


Figure 1.1: "Squire is a web-based collaborative software development environment with a project development center. Squire will allow multiple users to edit files and communicate in real time. Projects can be "stubbed" out by a user and then other users can join and/or vote to support for their favorite projects. After a certain amount of support, planning, and documentation is reached for a project, the project becomes a fully fledged project and then community development can start. Think "kickstarter for code" where people pledge their help with the project and not just financial support."

Chapter 2

State Charts

2.1 Project Forum (snev7821)

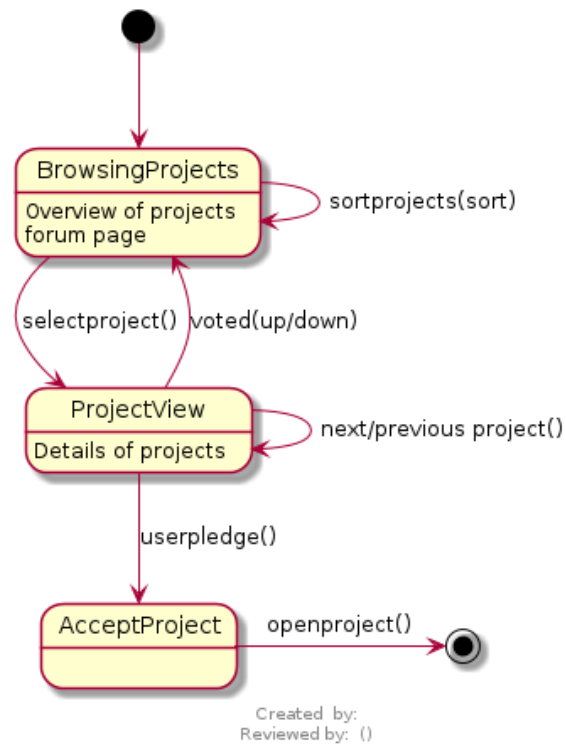


Figure 2.1: Statechart showing the flow of a user browsing the project forum page

2.2 Settings/Preferences (gall7417)

Figure 2.2: Statechart showing the flow of a user changing a user setting

2.3 Compile (boss2849)

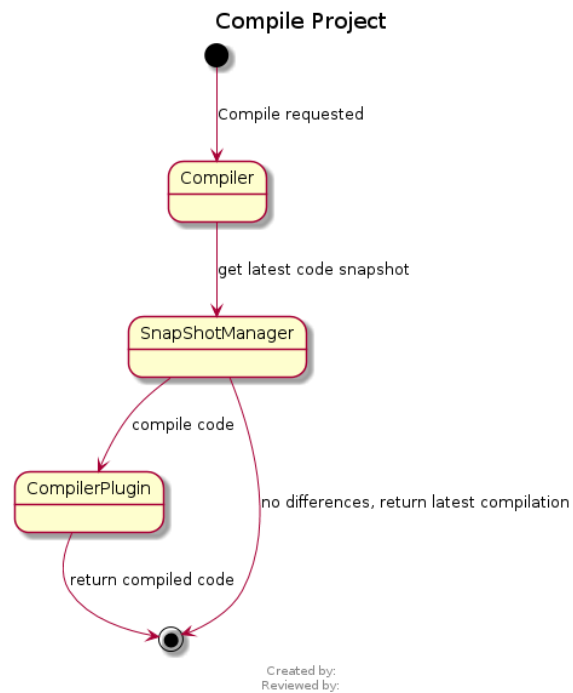


Figure 2.3: Statechart showing the flow of a user compiling a file, or entire project.

2.4 Project Management (bolt1003)

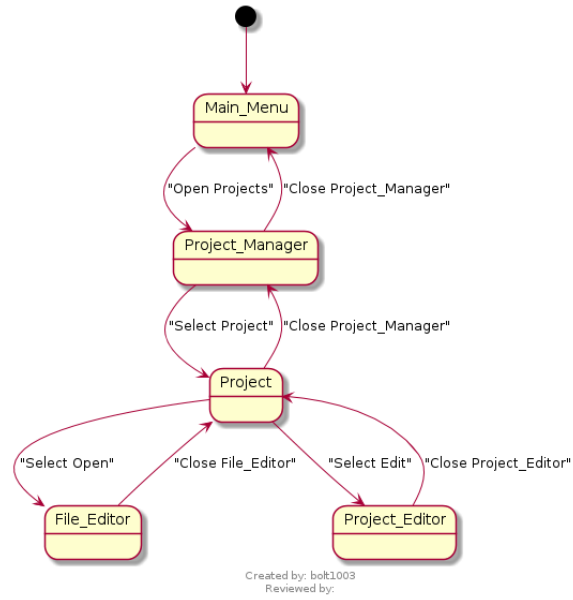


Figure 2.4: .

2.5 Communication (jank6275)

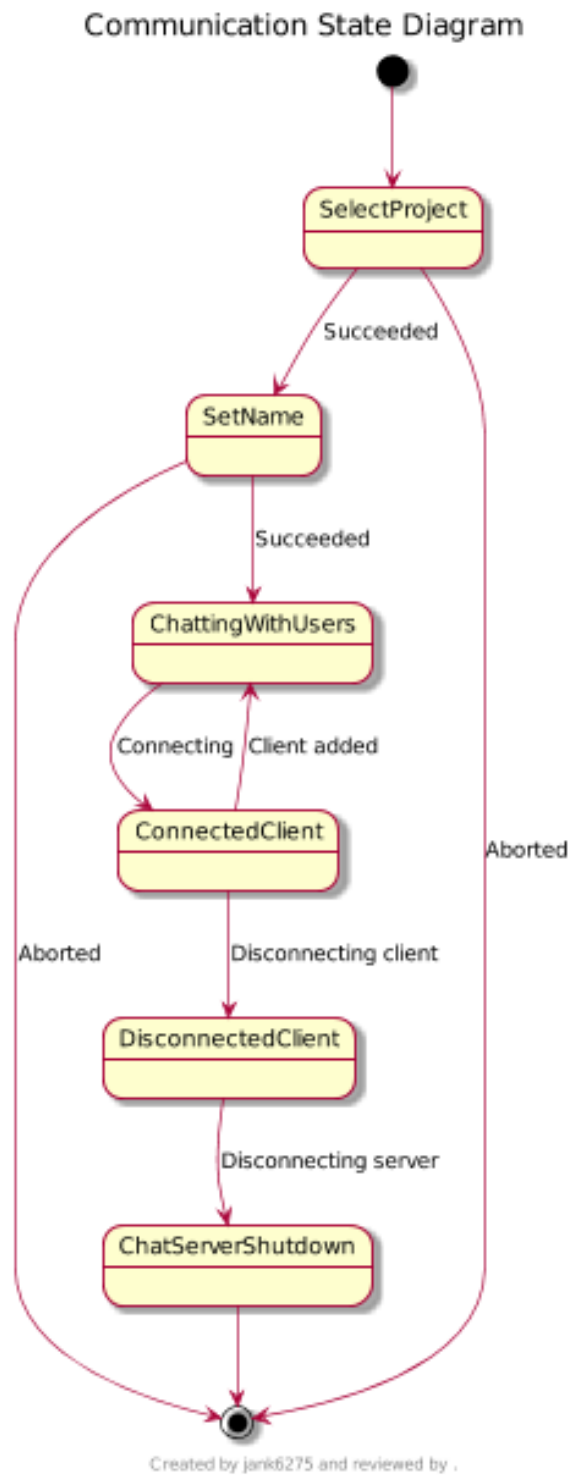


Figure 2.5: A statechart that shows the various states of the communication system.

2.6 Authentication (brec9824)

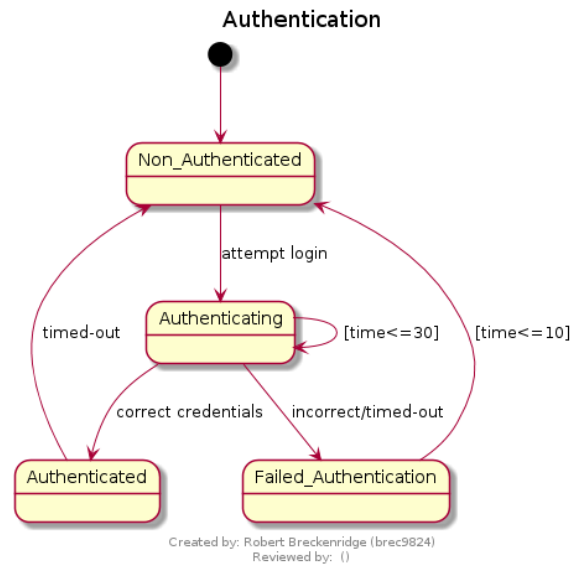


Figure 2.6: Statechart showing the flow between states for authentication.

Chapter 3

User Interface Mockups

3.1 Project Management (bolt1003)

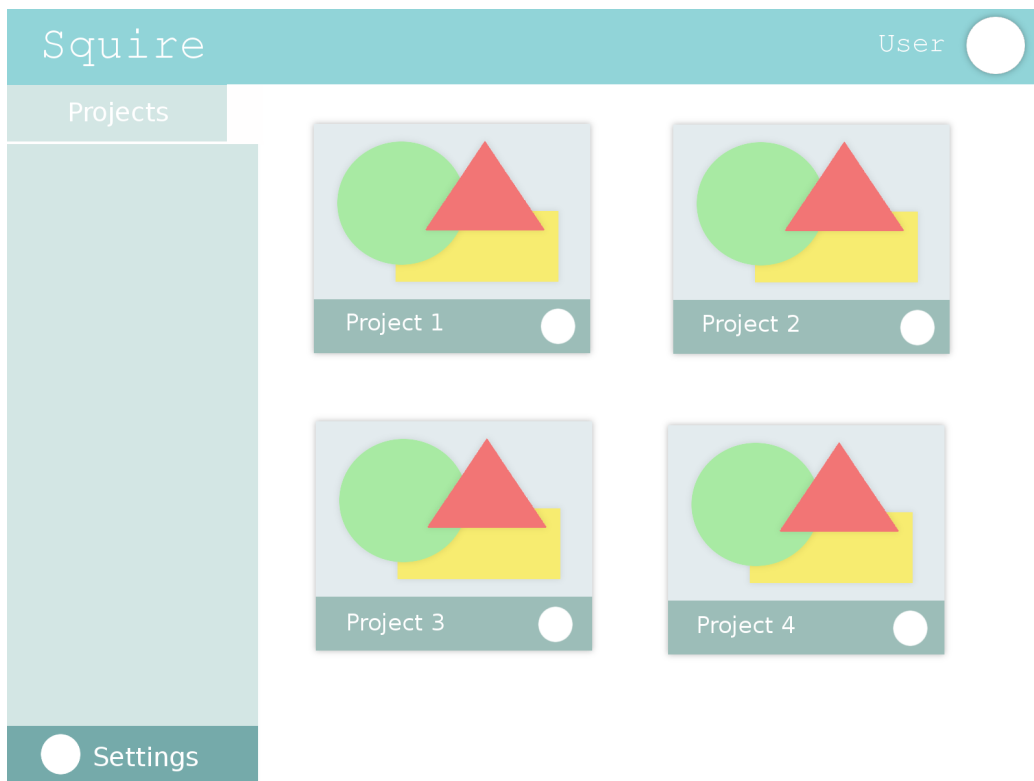


Figure 3.1: A possible look for the project management page

3.2 Settings and Preferences (gall7417)

Username

Account Settings

Name

Update Name

Username

E-mail

Update e-mail

Change password

Old password

New password

Confirm new password

Figure 3.2: Po

3.3 Squire Editor (jank6275)

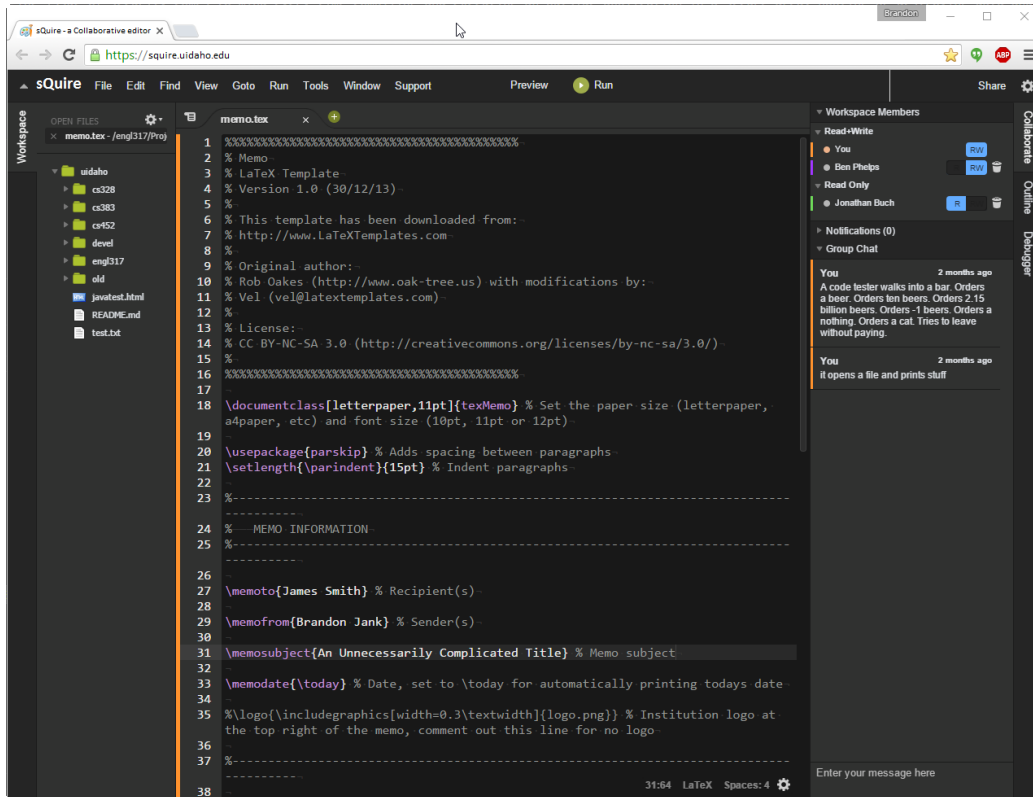


Figure 3.3: What we envision Squire IDE to look like.

3.4 Squire Chat (jank6275)

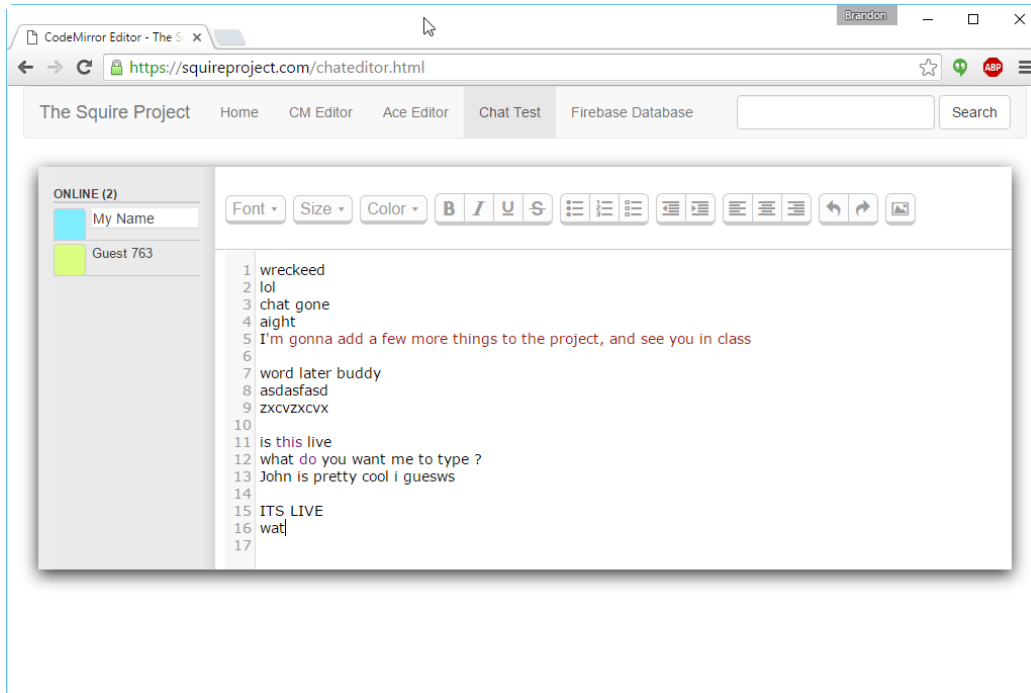


Figure 3.4: How communication could work in squire.

3.5 Project Browser (snev7821)

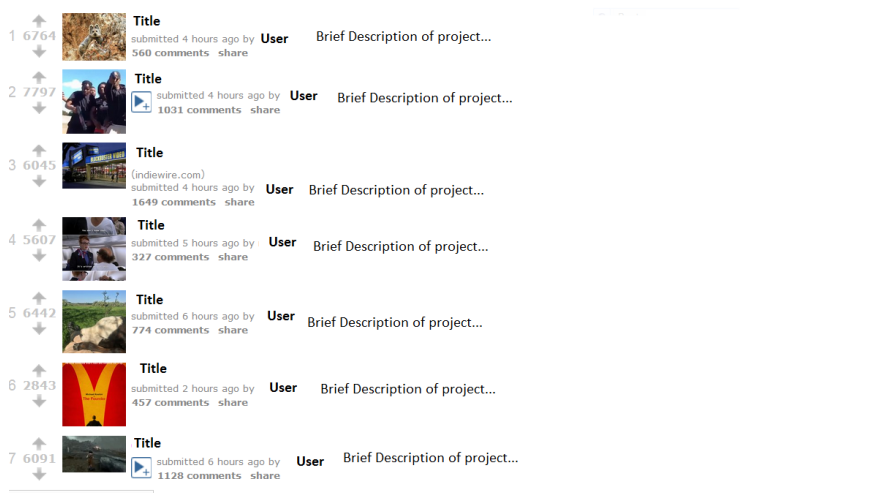


Figure 3.5: Created from Paint and Reddit, the project browser may end up looking somewhat similar

3.6 Compile Mockup (boss2849)

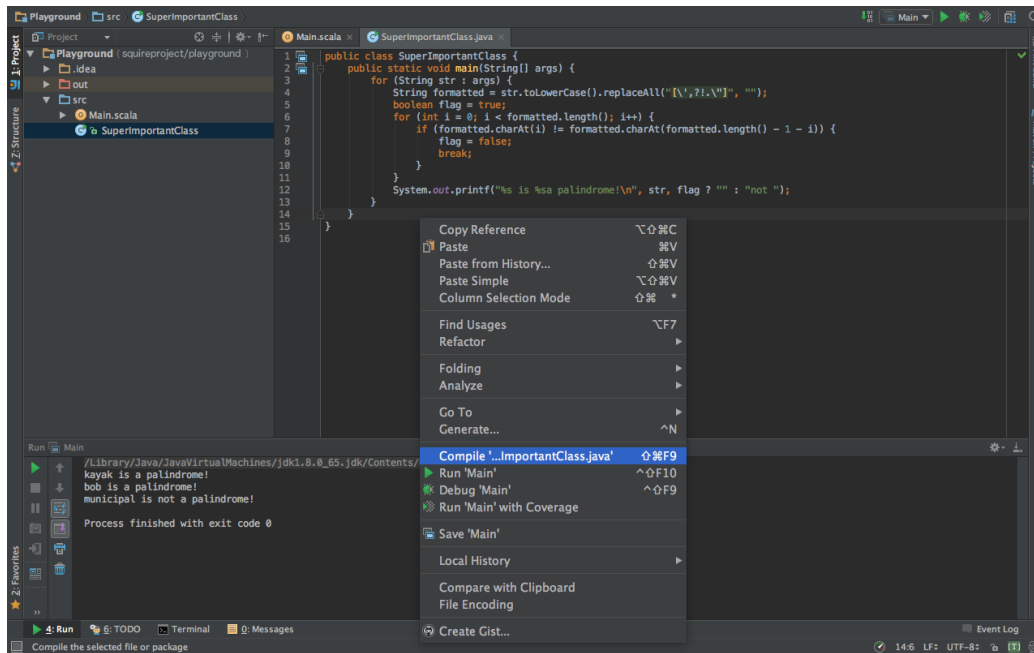


Figure 3.6: A mockup, based off IntelliJ of compiling a file.

3.7 Syntax Mockup (mars2681)

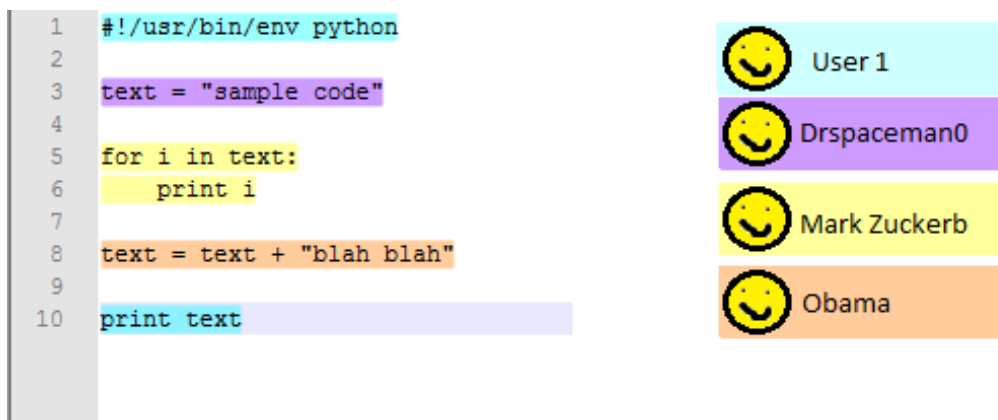


Figure 3.7: A mockup, created from Notepad++ and paint. Each user's input has its own shade. The light blue shade on Line 10 shows current user's cursor position.

3.8 Home (brec9824)



Figure 3.8: A mockup for the look of squire's home page. Created in html and css.

3.9 Register (brec9824)

sQuire

Home Explore Start a project About us

Why Register?

- Reach like minded users
- Turn a one man team into a 32 man team
- Simultaneous user IDE
- Chat with fellow team members
- Project files located all in one spot
- Projects backed-up to prevent file lose
- Complete all in one project and team manager

Register

First and Last Name

Email

Username

Password

[Already registered click here](#)

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Home Explore Start a project About us Contact us

Figure 3.9: A mockup for the look of squire's register page. Created in html and css.

3.10 Login (brec9824)



The mockup shows a web page with a light blue background. At the top, there is a dark blue header bar. On the left side of the header is the 'sQuire' logo in a dark, handwritten-style font. On the right side of the header are the links 'Home', 'Explore', 'Start a project', and 'About us'. In the center of the page is a white login form with a thin border. The form contains the following elements: a heading 'Login' with a small underline, a 'Username' label followed by a text input field, a 'Password' label followed by a text input field, a 'Login' button, and a checkbox labeled 'Remember Me'. At the bottom of the page is a dark blue footer bar. On the left side of the footer is the copyright notice '© sQuire University of Idaho'. On the right side of the footer are the links 'Home', 'Explore', 'Start a project', 'About us', and 'Contact us'.

Figure 3.10: A mockup for the look of squire's login page. Created in html and css.

3.11 Project Finder (brec9824)

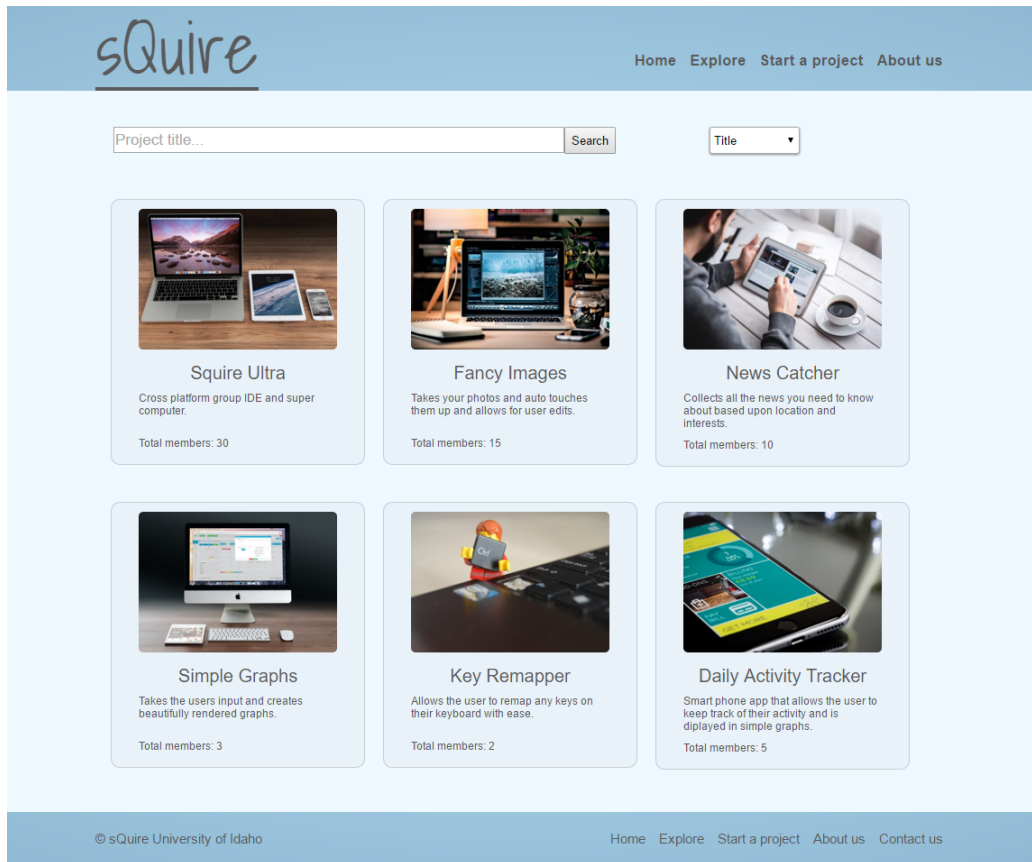


Figure 3.11: A mockup for the look of squire's project finder page. Created in html and css.

3.12 Project Idea (mora5651)

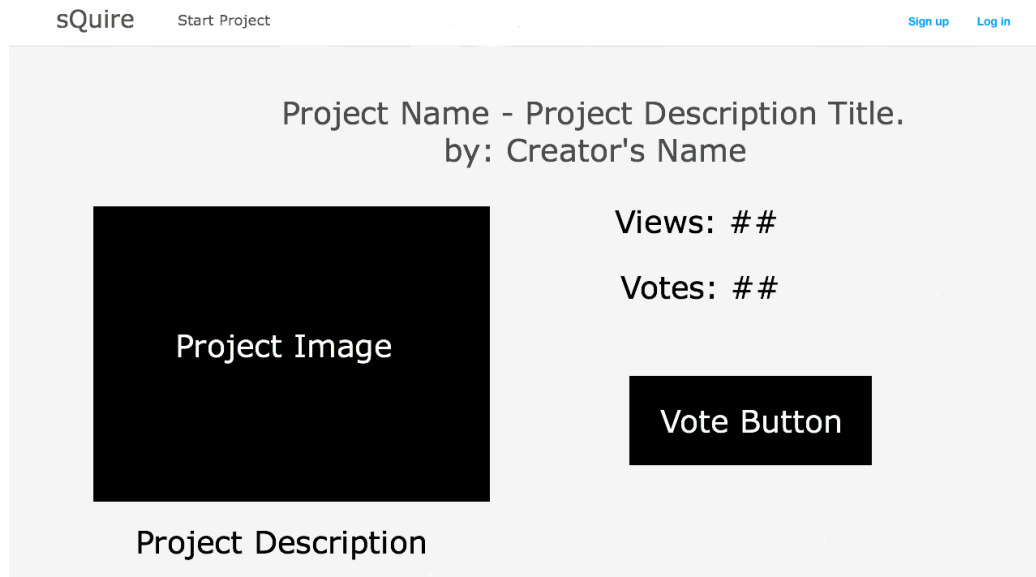


Figure 3.12: A mockup of how the project idea page should look like.

Chapter 4

Prototype Implementations

4.1 Server Stack (jank6275)

```
squire@vps74224:~/public_html$ ls
ace-builds  chateditor.html  css  images  info.php
aceeditor.html  cmeditor.html  fonts  index.html  js
squire@vps74224:~/public_html$ head index.html
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="utf-8">
  <meta http-equiv="X-UA-Compatible" content="IE=edge">
  <meta name="viewport" content="width=device-width, initial-scale=1">

  <title>The Squire Project</title>

  <meta name="description" content="Squire is a web-based collaborative software development environment with a project development center. Squire will allow multiple users to edit files and communicate in real time.">
squire@vps74224:~/public_html$ head /etc/nginx/sites-enabled/squireproject.com
server {
    listen      80;
    listen      [::]:80;
    listen      443 default ssl;

    server_name www.squireproject.com squireproject.com;

    ssl_certificate      /home/squire/ssl/star.squireproject.com.crt;
    ssl_certificate_key  /home/squire/ssl/star.squireproject.com.key;
squire@vps74224:~/public_html$ uname -a
Linux vps74224.vps.ovh.ca 3.13.0-55-generic #94-Ubuntu SMP Thu Jun 18 00:27:10 UTC 2015 x86_64 x86_64 x86_64 GNU/Linux
squire@vps74224:~/public_html$
```

Figure 4.1: The internet domain squireproject.com was registered and an SSL certificate was generated for secure communications. A virtual private server was provisioned and Ubuntu 14.04 installed and then hardened to common network attack vectors. Nginx and MySQL were installed and configured. The web content was written in HTML and bootstrap CSS.