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## WEB-TECHNOLOGY FINAL PROJECT

### [ PART 1]

1. Describe key features of web application functional + non-functional requirements.
2. Web-UI with menu to access those key features (min 3 functional, and 2 non-functional).

#### **Problem**

When it comes to finding internship opportunities university students struggle to find information and how to apply for those internships because it is done offline the traditional way. There is no centralized easy access to information on available all internship opportunities currently and there is no simple way to apply on them other than knocking on hundreds of doors.

Because information access is an issue, students who for example work other jobs and have availability constraints may find it difficult to find information about specific internships which match their availability because they don't have a way to browse the full scope of internships offers in the local area and hence they are left with very few options.

What Web application solution do I propose to this problem?

- Easier access to information online: Visitors & registered students can browse internships in the area online without having to search for them on countless websites or offline.
- Registered students can apply online to internship opportunities: Students can create accounts and be able to submit their application using forms which they submit to us and we do the job of submitting to those companies.

Key features of my web application including functional minimum (3) and non-functional requirements at least 2 (5pts)

#### **Functional Requirements**

1. The system shall provide signup system for new students to register new accounts.
2. The system must provide login system for returning university students with accounts.

3. The system shall provide a login system for the admin where they shall add, delete, display internships to the database.
4. The system shall provide the admin the capacity to view all internships applications.
5. The system shall allow registered students to display and choose an internship and apply on the internship of their choosing.
6. The system shall provide a browse option to display available internships to website visitors.

### **Non-functional requirements**

1. Security: Students must have valid credentials to be authenticated.
2. Responsive UI: The web application is responsive to smaller screens and medium screens and can be used on different devices.
3. Portability – Web application shall be compatible with all modern browser who can load html and JavaScript and css.

### **Screenshots/ workflow**

1. **The system shall provide signup system for new students to register new accounts.**

[Home](#) [Login](#)

#### Student Registration portal

Enter student id

Enter student Names

Enter User Names

Enter University names

Enter University department

Enter student email

Enter student password

Register

2. The system must provide login system for returning university students with accounts.

### Login form

[Login](#) [Home](#) [Signup](#)

#### Student Login portal

Enter student username

Password


[Login as admin](#)

### After Logging into Student Account

[Signout](#) [Login](#)


#### Student account

Choose a category




FinTech

[Learn More](#)




Machine Learning

[Learn More](#)



Startups

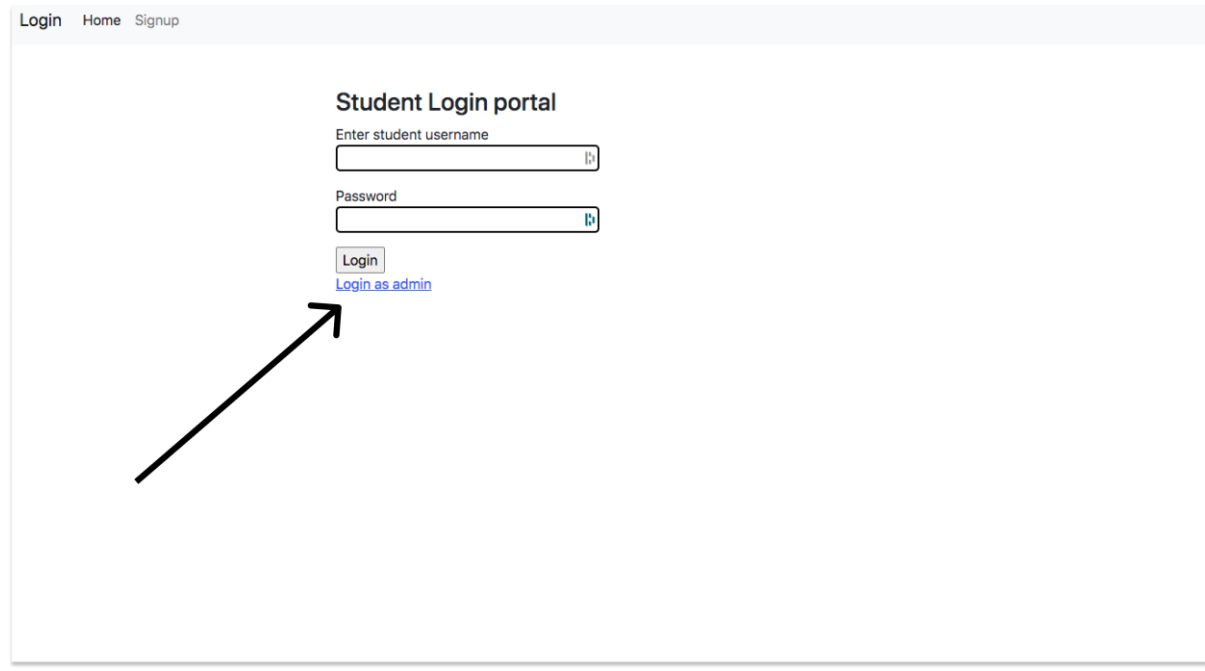
[Learn More](#)



Gaming

[Learn More](#)

3. The system shall provide a login system for the admin where they shall add , delete, view internships to the database.



The screenshot shows a web application interface for a 'Student Login portal'. At the top, there is a navigation bar with links for 'Login', 'Home', and 'Signup'. The main content area contains the following elements:

- Student Login portal**: A heading for the login section.
- Enter student username**: A text label above a text input field.
- Password**: A text label above a password input field.
- Login**: A button with the text 'Login'.
- Login as admin**: A blue hyperlink text located below the 'Login' button.





A large black arrow is drawn on the page, pointing from the bottom-left towards the 'Login as admin' link.

### Inside Admin account

1.

## Welcome Admin

### Choose a category

 <b>FinTech</b> <a href="#">Insert new Internships</a>	 <b>Machine Learning</b> <a href="#">Insert new Internships</a>
 <b>Startups</b> <a href="#">Insert new Internships</a>	 <b>Gaming</b> <a href="#">Insert new Internships</a>

#### a. Insert

In this example I clicked on insert new internships in Machine Learning Category

### Machine Learning companies

Enter Company id

Enter Company name

Enter Company Address

Enter Job title description

Enter company availability

[Register](#) [Display](#)

After inserting I clicked Display to see if it was inserted

[Signout](#) [Login](#)

Company Id	Company Name	Company Address	Experience required	Company Flexibility	Action
4	Sony	Santa Monica	VFX Designe	Remote 4 hours a day	<button>Delete</button>
4434	Big Data Rwanda	Statistics, Town, opposite CHIC	Data Scientist	4 hours a day 5days a week	<button>Delete</button>

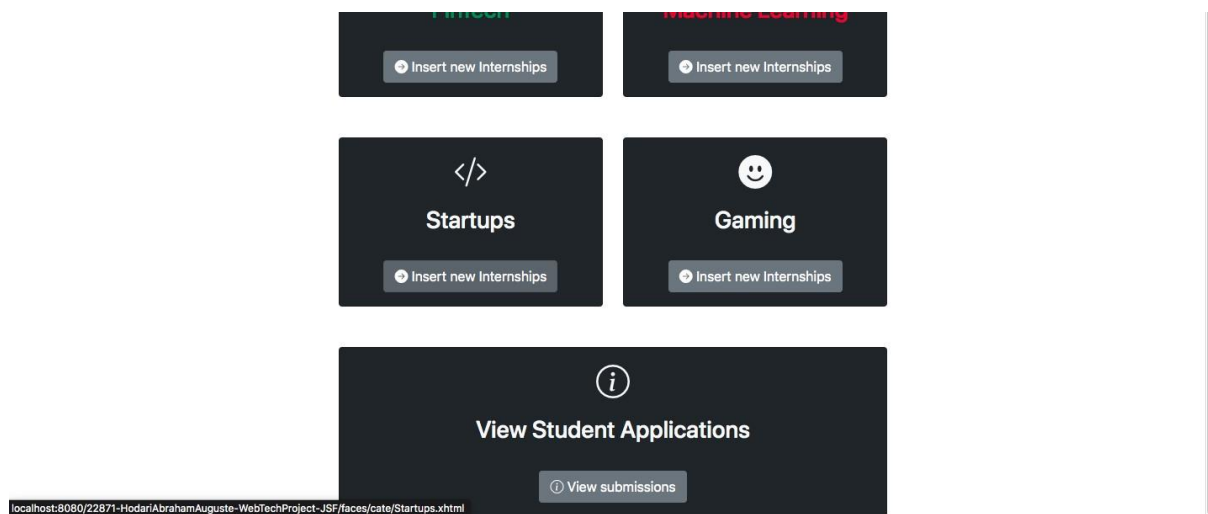
- b. I can also delete using the Delete Button (I deleted the first record for demonstration)

[Signout](#) [Login](#)

Company Id	Company Name	Company Address	Experience required	Company Flexibility	Action
4434	Big Data Rwanda	Statistics, Town, opposite CHIC	Data Scientist	4 hours a day 5days a week	<button>Delete</button>

**4. The system shall provide the admin the capacity to view all internships applications submissions from students.**

Once logged in as admin you click on View submission



Then you can view all applications submitted by the students:

Home Login

Company Name	Student Name	Student Ids	University Names	University Department	Student GPA
Bank of Africa	Mireille	22839	Auca	Info mgmt	2.1

5. The system shall allow registered students to display and choose an internship and apply on the internship of their choosing.

[Signout](#) [Login](#)

## Student account

Choose a category



FinTech

[Learn More](#)



Machine Learning

[Learn More](#)



Startups

[Learn More](#)



Gaming

[Learn More](#)



**Here I will choose FinTech category I click on Learn more I can see the internships available at the moment**

[Signout](#) [Login](#)

### Current Fintech internships available

Company Id	Company Name	Company Address	Experience required	Company Flexibility
3456	Equity Bank	Kimironko Branch	Tech	7am to 3pm
345465	Bank of Africa	Kabuga Branch	Part time maintenance	4 hours a day 5 days per week

[Submit application](#)

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**I Click on submit application (Here I can Fill out the application form and submit it)**

[Signout](#) [Login](#)

### Current available internships

Company Id	Company Name	Company Address	Experience required	Company Flexibility
3456	Equity Bank	Kimironko Branch	Tech	7am to 3pm
345465	Bank of Africa	Kabuga Branch	Part time maintenance	4 hours a day 5 days per week

### Submit application

Enter Company id

Enter Company Name

Enter Your name

Enter Your Student ID

Enter UNIVERSITY NAME

Enter UNIVERSITY DEPARTMENT

### Submit application

Enter Company id

Enter Company Name

Enter Your name

Enter Your Student ID

Enter UNIVERSITY NAME

Enter UNIVERSITY DEPARTMENT

Enter YOUR GPA

## **6. The system shall provide a browse option to display available internships to website visitors.**

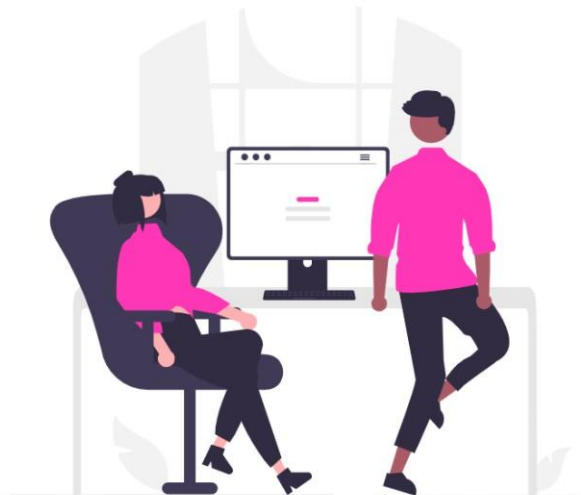
[Home](#) [Login](#) [Register](#) [About](#)

## Internship Application System

We help students find the internship they deserve

 Browse

 Sign up

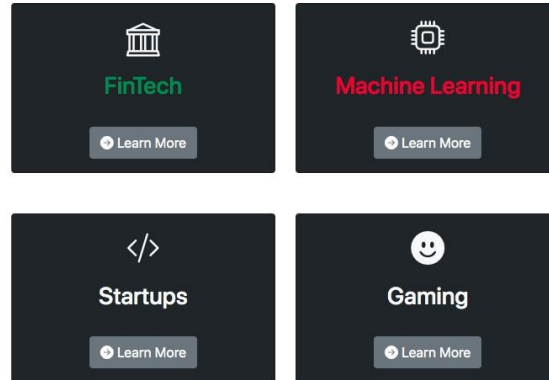


## They can choose the available categories and click on learn more

[Home](#) [Login](#) [Register](#) [Learn more](#)

### Welcome

### Browse available categories



## The can see a table of the available ones and click on Submit application

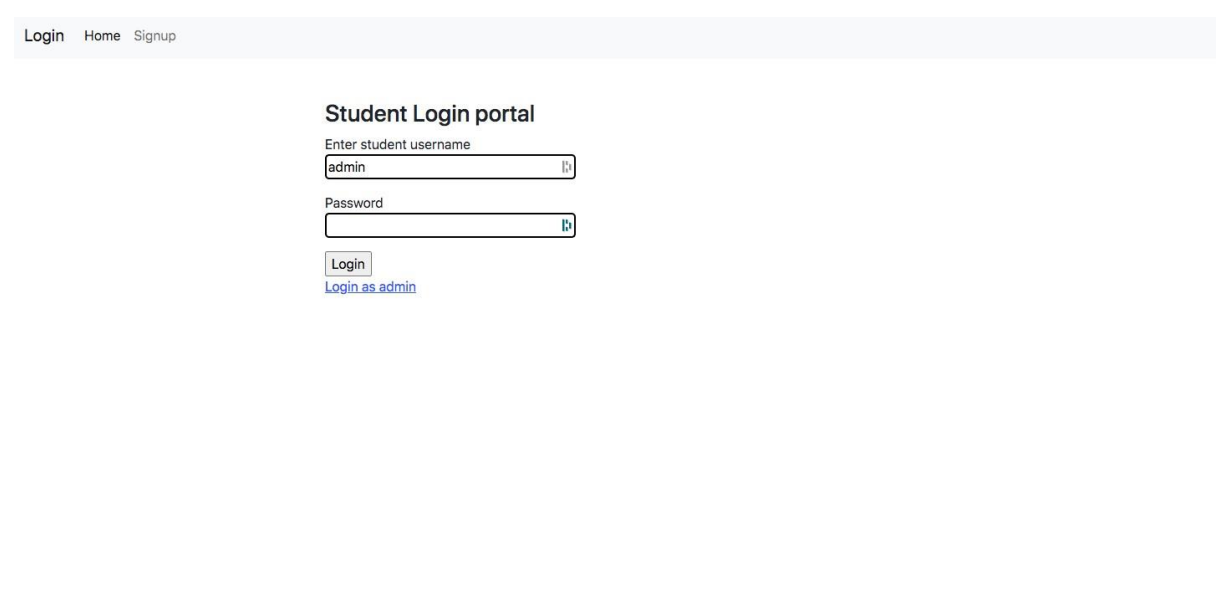
[Signout](#) [Login](#)

### Current Startup internships available

Company Id	Company Name	Company Address	Experience required	Company Flexibility
567	Cashi App	WesterWelle Startup Haus	Java developer	5 hours a day Monday through thursday

[Submit application](#)

**When they click on Submit application they are required to login because only registered students can submit application**



Login Home Signup

Student Login portal

Enter student username

admin

Password

Login

[Login as admin](#)

## [ PART 2 ]

Using MVC architecture implement each feature, and for each feature provide a screenshots demonstrating the implementation of Model, View and Controller components. Use Ajax at least in sending one request.

**THERE IS IMPLEMENTATIONS OF MVC on all the above functional requirements**

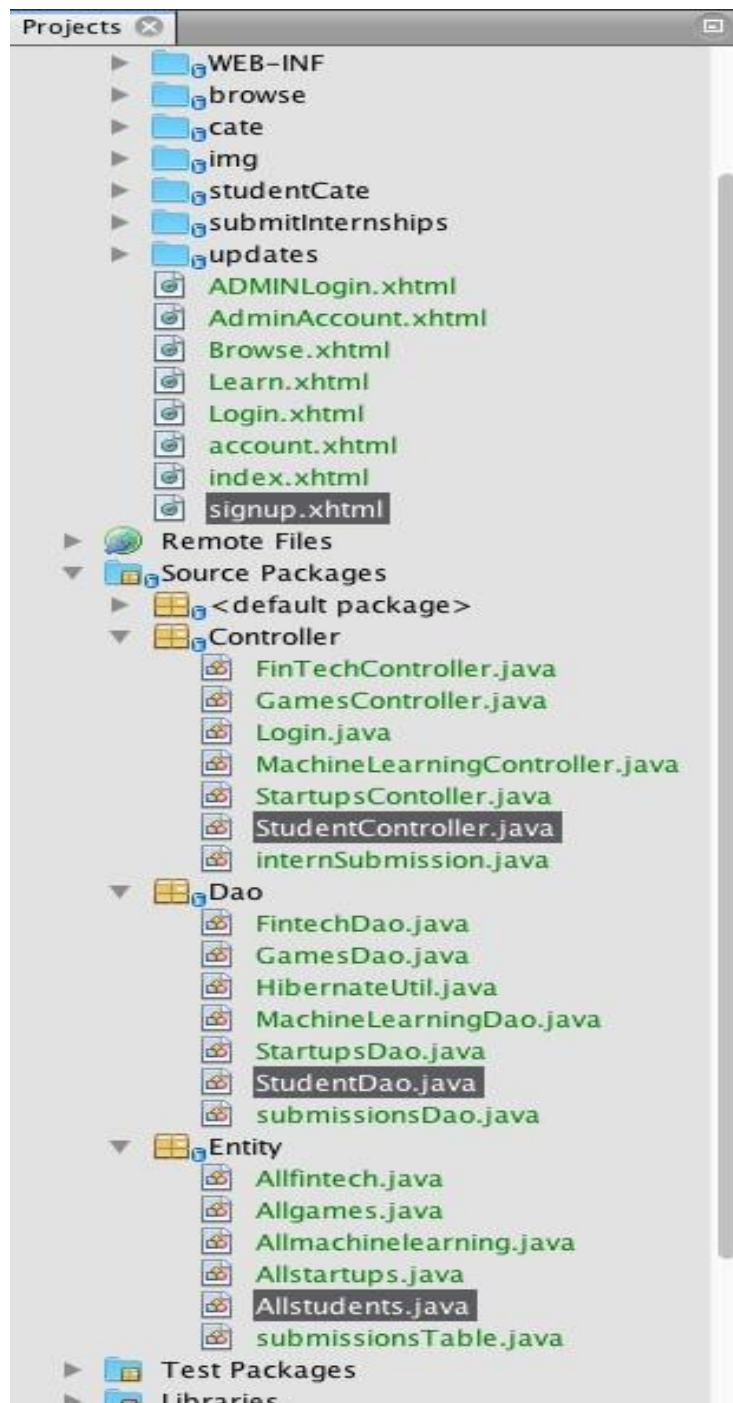
### **1. Starting with the student Signup**

**Signup.xhtml** As view

**StudentController.java** As controller

**StudentDao.java** As Model

**AllStudents.java** is the Entity Layer



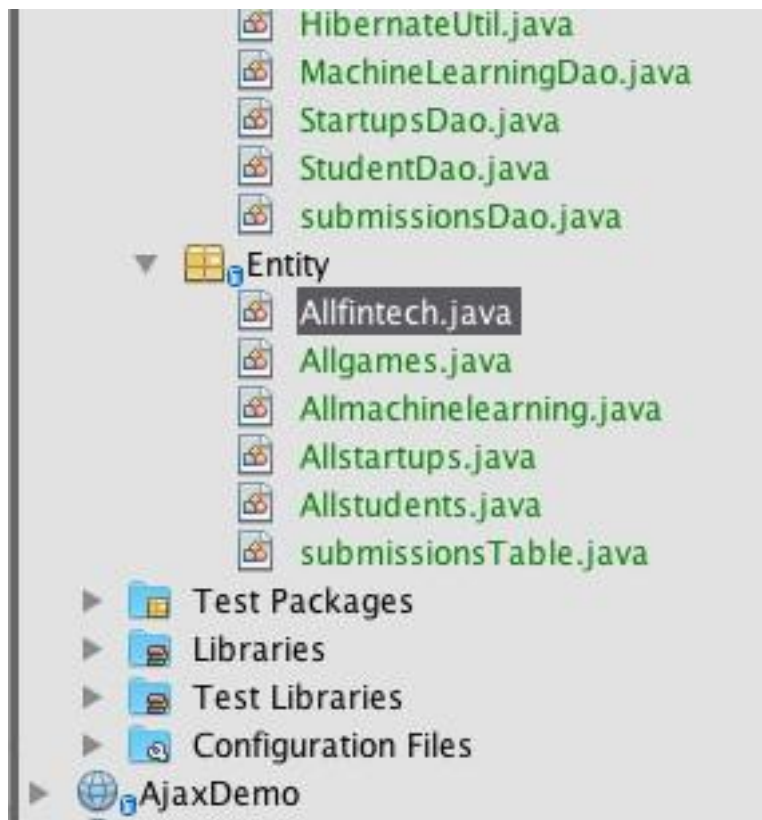
## 2. Login

LOGIN.XHTML as view, Login.java as Bean class/ Controller, All students as Model to the database.



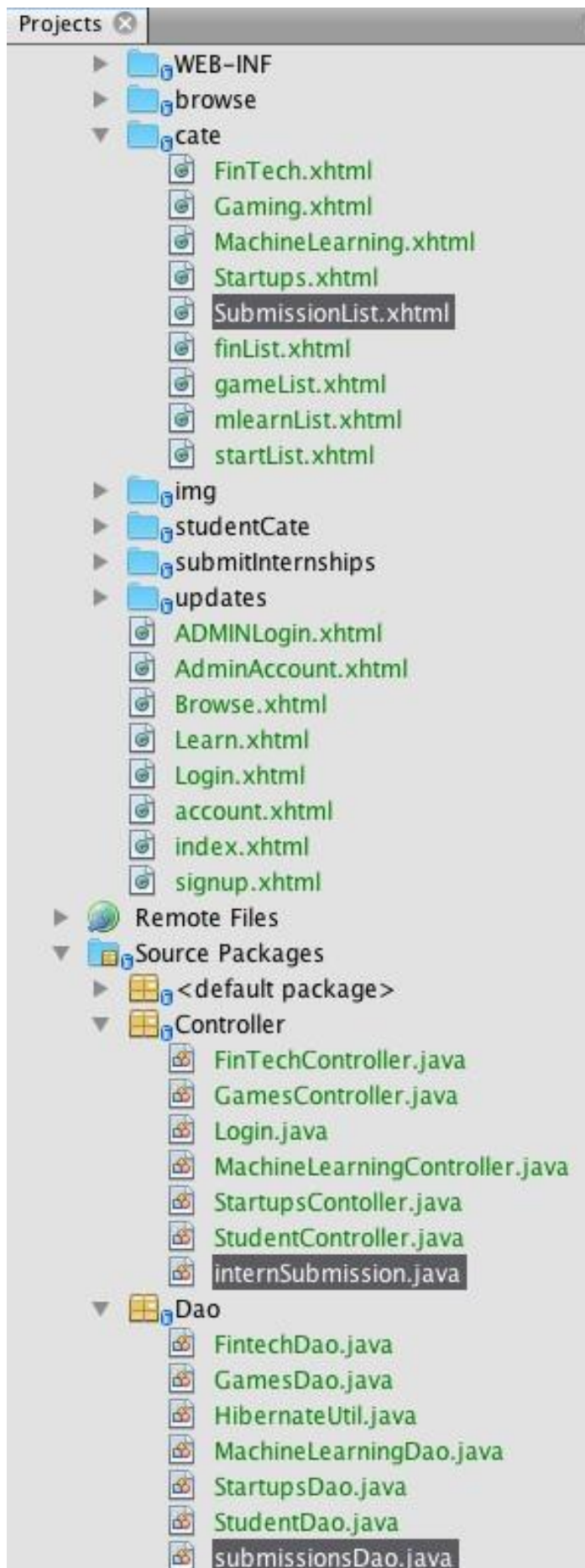
### **3. Admin can add, delete, view internships to the database.**

Here the view is FinTech.xhtml. Controller is FinTechController, Model is FinTechDao and for other categories as well not just FinTech also MachineLearning.xhtml and other entities

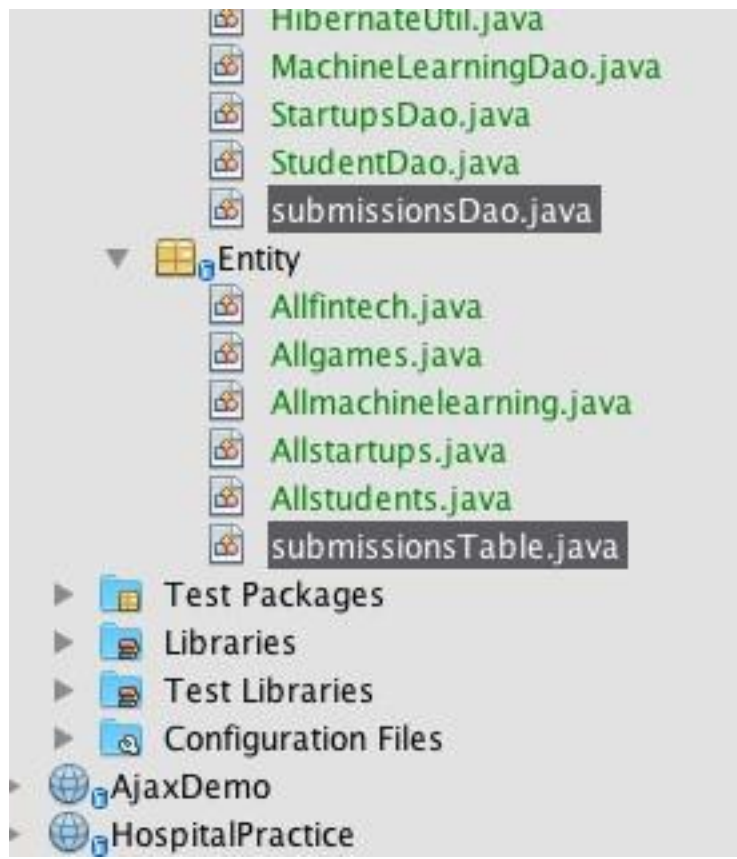


**4. The system shall provide the admin the capacity to view all internships applications submissions from students.**

SubmissionList.xhtml as view, internSubmission.java as controller, submissionDao.java as model submissionsTable.java as Entity







**5. The system shall allow registered students to display and choose an internship and apply on the internship of their choosing.**

submittedInternship.xhtml as view  
internshipSubmission as controller  
submissionDao as Model  
submissionsTable as Entity



**6. The system shall provide a browse option to display available internships to website visitors.**

Browse.xhtml & mlearnList.xhtml is the view  
MachineLearningController.java is the controller  
MachineLearningDao.java as the Model



### [ Ajax Request ]

Here Learn.xhtml I made an ajax request with `<f:ajax/>` to render what a user enter in the text input field and the client in this transaction is Learn.xhtml and the server is UserBean.java which is a bean class



## [ PART 3 ]

**Implement at least 2 non-functional (non-domain specific) features of your web application.**

1. Security: Students must have valid credentials to be authenticated.

Here if I type a wrong password it will not allow to get into the account no matter how many tries

### Student Login portal

Enter student username

Password

[Login as admin](#)

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Same applies for Admin side

### Admin Login portal

Enter student username

Password

There is also captcha verification for added security

## Student Login portal

Enter student username

Password



I'm not a robot



reCAPTCHA  
[Privacy](#) - [Terms](#)

Login

[Login as admin](#)

2. Responsive UI: The web application is responsive to smaller screens
  - a. The navigation bar collapse with hamburger menu



Home

Login

Register

About

# Internship Application System

We help students find the internship they deserve

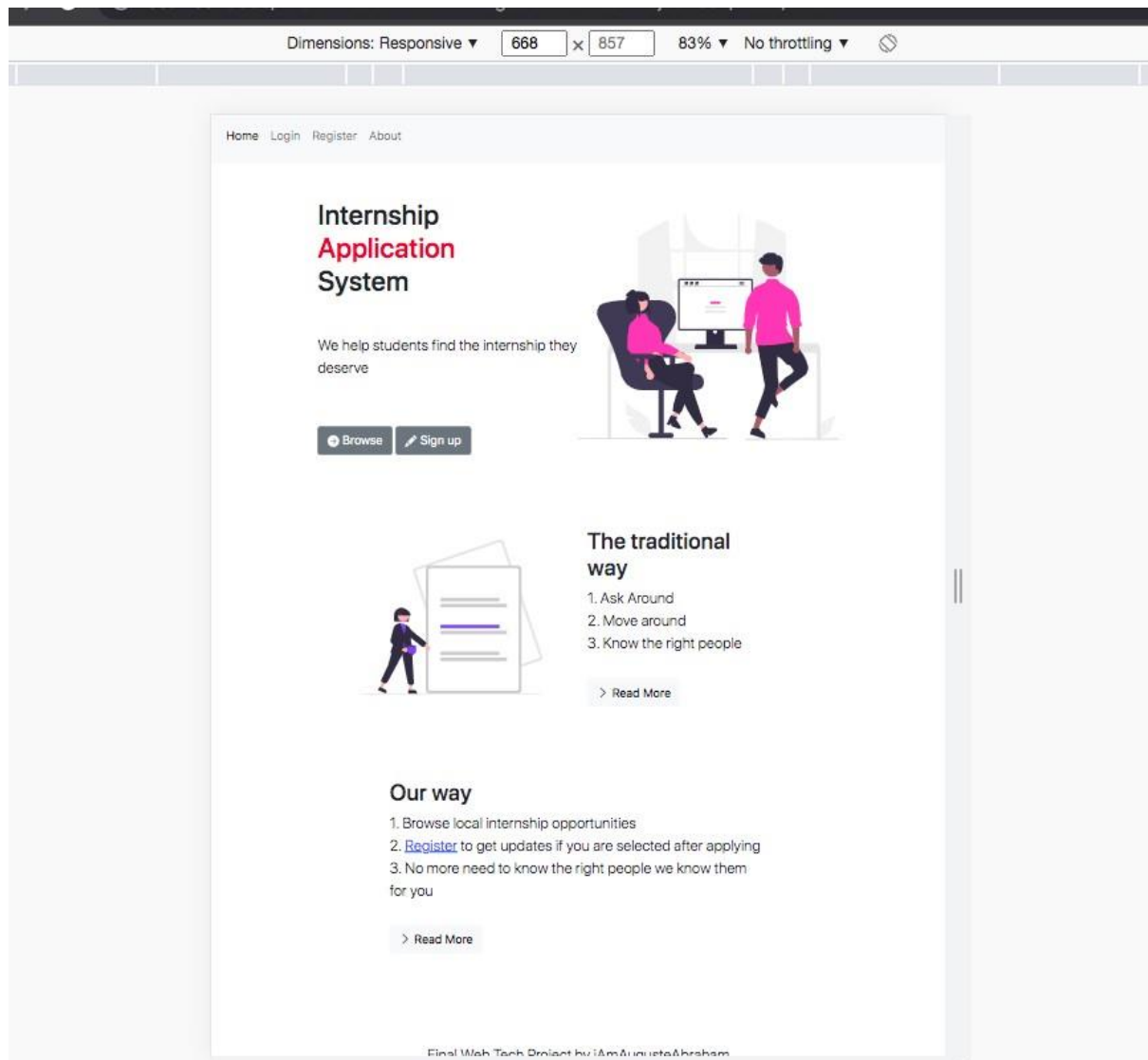
 Browse

 Sign up



b. medium screens also view the pages very well

## Tablets



## Tablets



Dimensions: Responsive ▾

768

×

712

100% ▾

No throttling ▾



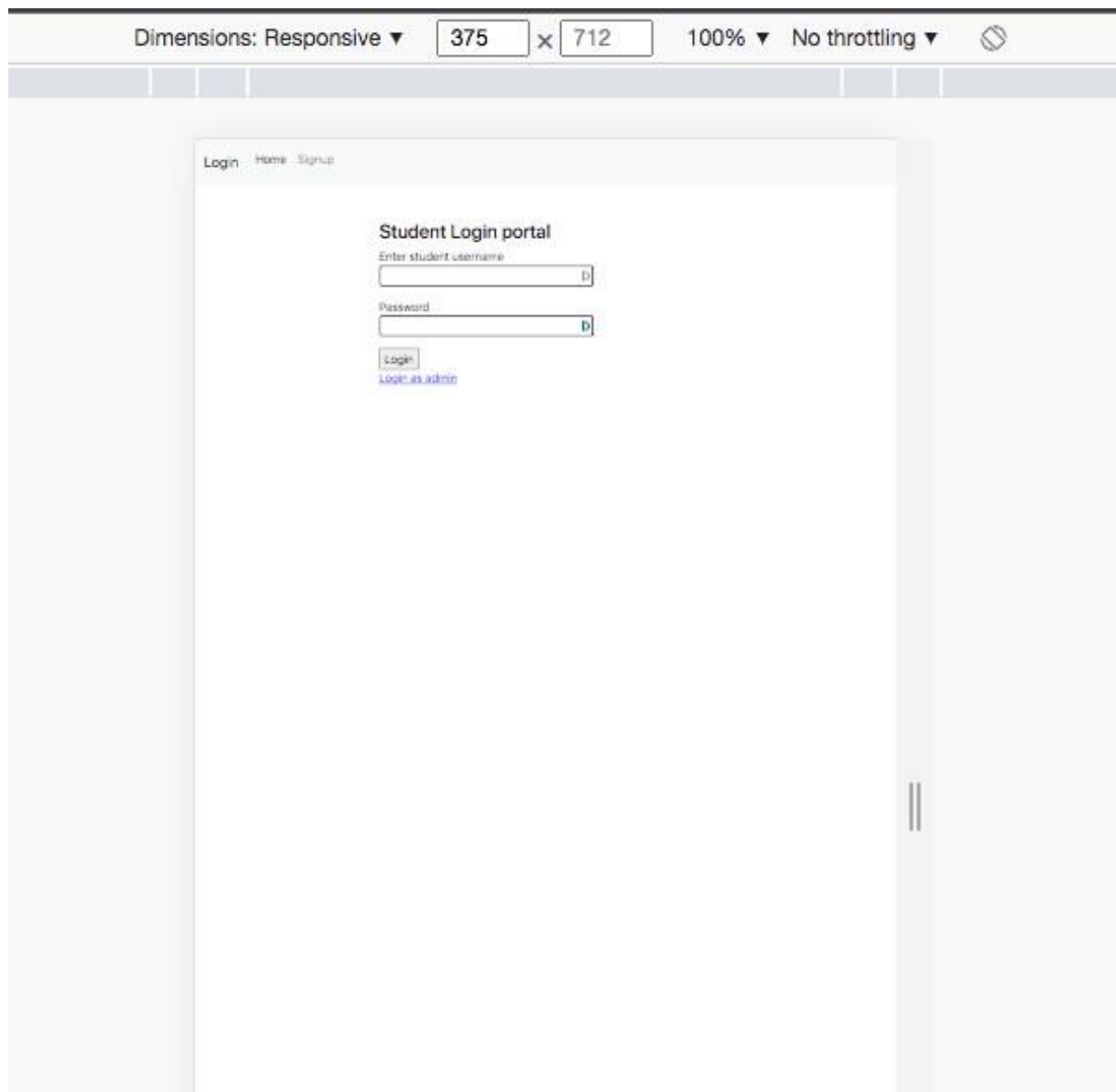
Mobile L – 425px

[Signout](#) [Login](#)

## Current Startup internships available

Company Id	Company Name	Company Address	Experience required	Company Flexibility
567	Cashi App	WesterWelle Startup Haus	Java developer	5 hours a day Monday through thursday

[Submit application](#)



## State of the art technology

Implemented reCAPTCHA v2 for security against bots on login portal

## Student Login portal

Enter student username

Password



I'm not a robot



reCAPTCHA  
Privacy - Terms

Login

[Login as admin](#)

On the login side of both returning students and admin.

Firstly I registered on the google reCaptcha

Google reCAPTCHA

testing

7 / 50

reCAPTCHA type ⓘ

☐ reCAPTCHA v3 Verify requests with a score

☒ reCAPTCHA v2 Verify requests with a challenge

☒ "I'm not a robot" Checkbox Validate requests with the "I'm not a robot" checkbox

☐ Invisible reCAPTCHA badge Validate requests in the background

☐ reCAPTCHA Android Validate requests in your android app

Domains ⓘ

+ localhost

Owners

gaodari3@gmail.com (You)

+ Enter email addresses

☒ Accept the reCAPTCHA Terms of Service

By accessing or using the reCAPTCHA APIs, you agree to the Google APIs [Terms of Use](#), Google [Terms of Use](#), and to the Additional Terms below. Please read and understand all applicable terms

It generated a site Key and secret Key which I used in my project source code

## Adding reCAPTCHA to your site

'testing' has been registered.

Use this site key in the HTML code your site serves to users. [See client side integration](#)

 COPY SITE KEY

6LFR49sjAAAAAAx8bl2hGeEMCSIBJwVlJnVoK5pR

Use this secret key for communication between your site and reCAPTCHA. [See server side integration](#)

 COPY SECRET KEY

6LFR49sjAAAAAGkR7bzux1VaV5l\_gWRoSjHKkdoG

[GO TO SETTINGS](#)

[GO TO ANALYTICS](#)

Implementation in the project:

Inside my Login Bean (Login.java) class is where the validation is so that you must select the reCaptcha before logging in

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