Assignment-3

Group members:
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The creation of full-stack applications is the main goal of this project. The goal is to design a student survey application using a Spring Boot-implemented back-end and an Angular-developed front-end. CRUD operations on student survey data, which is saved in a MySQL database using JPA/Hibernate, are supported by the application. This project offers a user-friendly interface for potential students to examine previously completed surveys and provide feedback regarding their campus visit.

Technologies used:

1. **Front-End**: Angular
2. **Back-End**: Spring Boot (RESTful Web Services, JPA/Hibernate)
3. **Database**: MySQL
4. **Build Tool**: Maven
5. **Development Tools**: Visual Studio Code, MySQL Workbench

Homepage: Contains links for navigation to:

Student Survey: A way for students to provide input.

List Every Survey: shows every survey recorded, along with the ability to edit and remove entries.

Form for Survey:

Text inputs for personal information such as name, address, city, state, etc. are required.

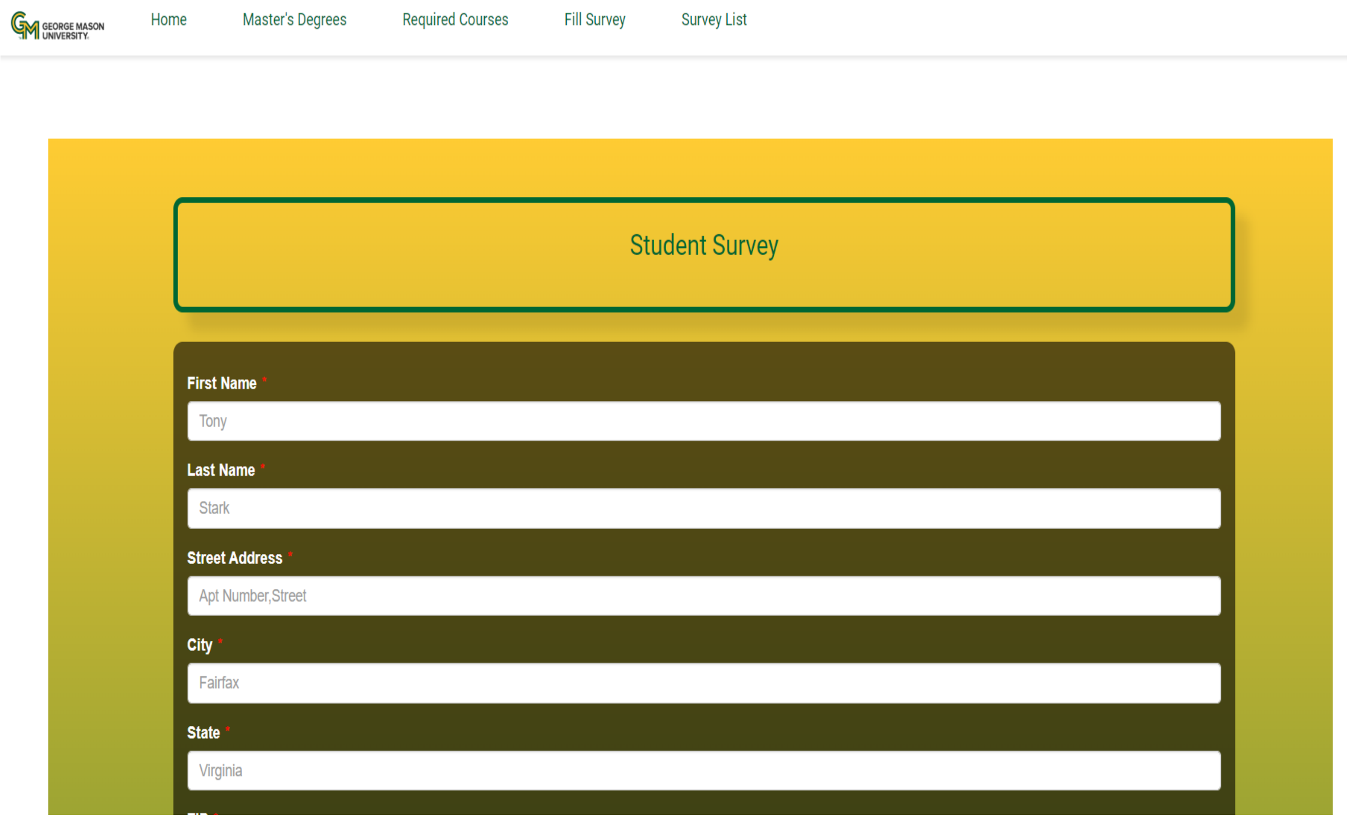
Checkboxes: To choose the aspects of the campus that you like best.

Radio Buttons: To show how the student found the university interesting.

Dropdown List: To determine the probability of endorsing the university.

Text Area: For more remarks.

Cancel and Submit Buttons.



Student Survey

First Name *

Tony

Last Name *

Stark

Street Address *

Apt Number,Street

City *

Fairfax

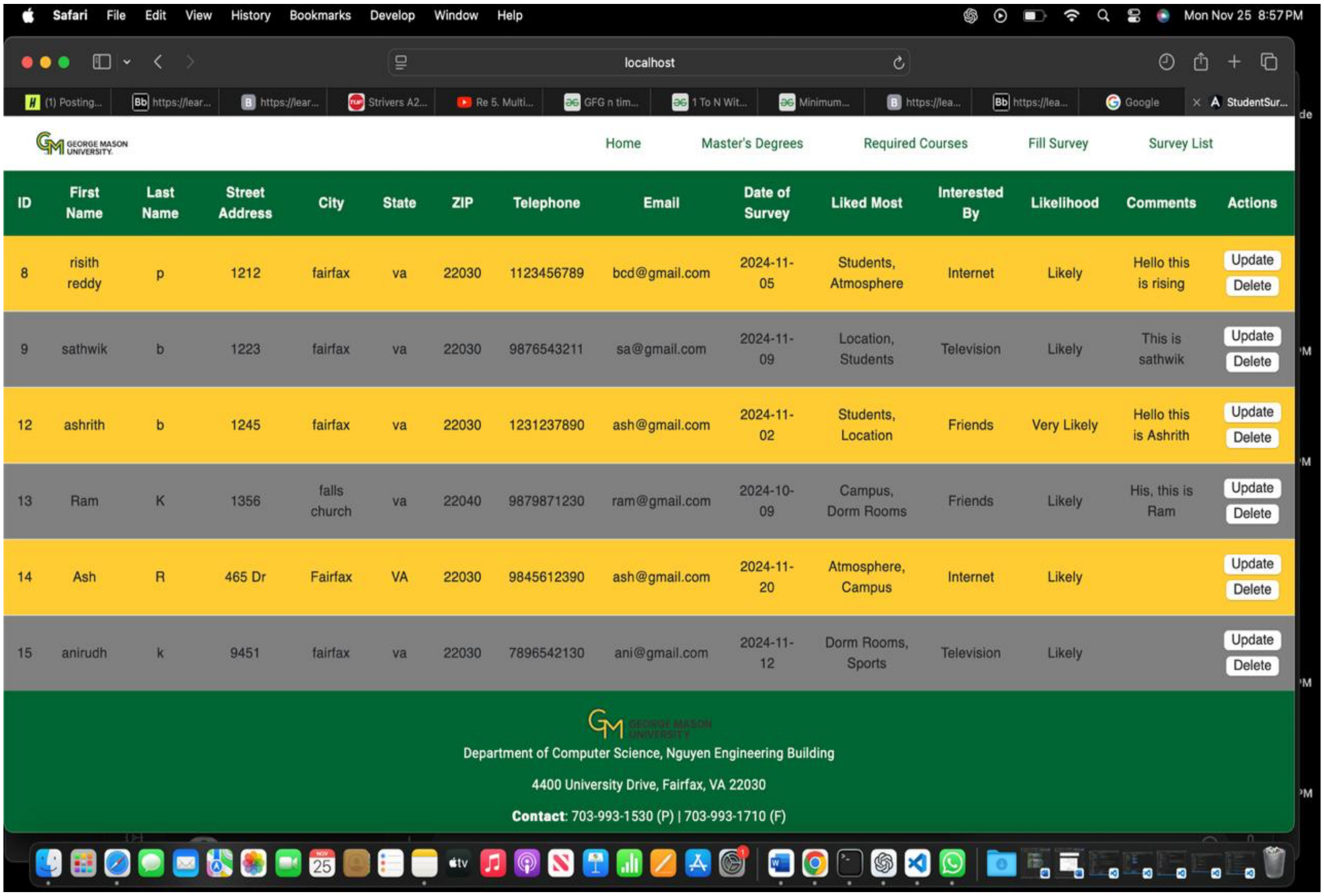
State *

Virginia

List of Surveys:

shows every survey that has been recorded.

Options for adding and removing certain surveys.



ID	First Name	Last Name	Street Address	City	State	ZIP	Telephone	Email	Date of Survey	Liked Most	Interested By	Likelihood	Comments	Actions
8	risith reddy	p	1212	fairfax	va	22030	1123456789	bcd@gmail.com	2024-11-05	Students, Atmosphere	Internet	Likely	Hello this is rising	Update Delete
9	sathwik	b	1223	fairfax	va	22030	9876543211	sa@gmail.com	2024-11-09	Location, Students	Television	Likely	This is sathwik	Update Delete
12	ashrith	b	1245	fairfax	va	22030	1231237890	ash@gmail.com	2024-11-02	Students, Location	Friends	Very Likely	Hello this is Ashrith	Update Delete
13	Ram	K	1356	falls church	va	22040	9879871230	ram@gmail.com	2024-10-09	Campus, Dorm Rooms	Friends	Likely	His, this is Ram	Update Delete
14	Ash	R	465 Dr	Fairfax	VA	22030	9845612390	ash@gmail.com	2024-11-20	Atmosphere, Campus	Internet	Likely		Update Delete
15	anirudh	k	9451	fairfax	va	22030	7896542130	ani@gmail.com	2024-11-12	Dorm Rooms, Sports	Television	Likely		Update Delete

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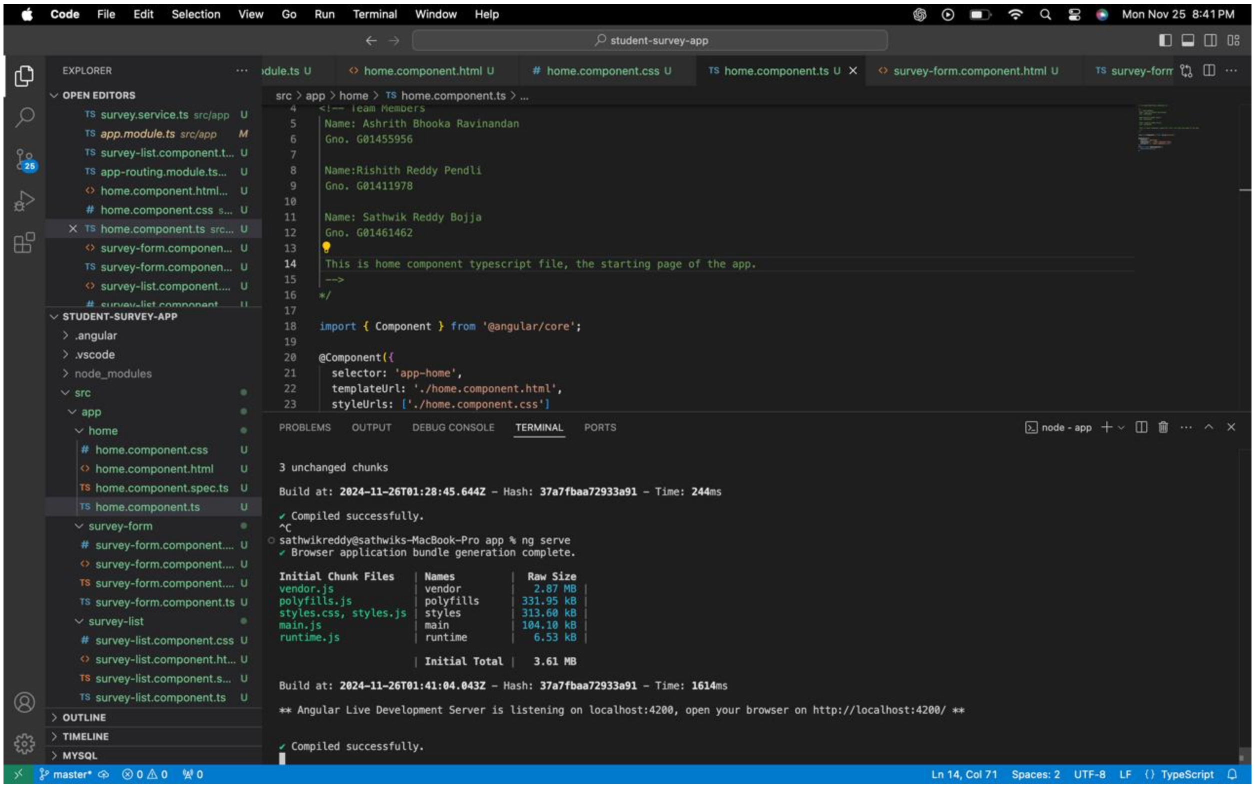
Workflow:

Workflow at the Front End (Angular Application)

Launch the application in Angular:

To launch the Angular development server, run with ng serve.

The IP address of the program is http://localhost:4200.


Code File Edit Selection View Go Run Terminal Window Help
Mon Nov 25 8:41 PM
student-survey-app
EXPLORER
OPEN EDITORS
survey.service.ts src/app U
app.module.ts src/app M
survey-list.component.t... U
app-routing.module.ts... U
home.component.html... U
home.component.css s... U
home.component.ts src... U
survey-form.componen... U
survey-form.componen... U
survey-list.component.... U
STUDENT-SURVEY-APP
.angular
.vscode
node_modules
src
app
home
home.component.css U
home.component.html U
home.component.spec.ts U
home.component.ts U
survey-form
survey-form.component.... U
survey-form.component.... U
survey-form.component.... U
survey-form.component.ts U
survey-list
survey-list.component.css U
survey-list.component.ht... U
survey-list.component.s... U
survey-list.component.ts U
OUTLINE
TIMELINE
MYSQL
dule.ts U
home.component.html U
home.component.css U
home.component.ts U
survey-form.component.html U
survey-form
src > app > home > home.component.ts > ...
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
node - app
master* 0 0 0
Ln 14, Col 71 Spaces: 2 UTF-8 LF {} TypeScript

```
<!-- Team Members
 Name: Ashrith Bhooka Ravinandan
 Gno. G01455956

 Name:Rishith Reddy Pendli
 Gno. G01411978

 Name: Sathwik Reddy Bojja
 Gno. G01461462

 This is home component typescript file, the starting page of the app.
 -->
*/

import { Component } from '@angular/core';

@Component({
  selector: 'app-home',
  templateUrl: './home.component.html',
  styleUrls: ['./home.component.css']
```

```
3 unchanged chunks

Build at: 2024-11-26T01:28:45.644Z - Hash: 37a7fbaa72933a91 - Time: 244ms

✔ Compiled successfully.
^C
sathwikreddy@sathwiks-MacBook-Pro app % ng serve
✔ Browser application bundle generation complete.

Initial Chunk Files   | Names         |  Raw Size
vendor.js             | vendor        |   2.87 MB |
polyfills.js          | polyfills     | 331.95 kB |
styles.css, styles.js | styles        | 313.60 kB |
main.js               | main          | 104.10 kB |
runtime.js            | runtime       |   6.53 kB |

                      | Initial Total |   3.61 MB

Build at: 2024-11-26T01:41:04.043Z - Hash: 37a7fbaa72933a91 - Time: 1614ms

** Angular Live Development Server is listening on localhost:4200, open your browser on http://localhost:4200/ **


✔ Compiled successfully.
```

Homepage:

A homepage appears when users launch the application in their browser.

Navigation links to the List All Surveys page and the Student Survey form are included on this page.

Submission of the Survey Form:

To complete the feedback form, users go to the Student Survey page.

Personal information input forms, checkboxes, radio buttons, a dropdown menu, and a text field for extra remarks are all included in the form.

After the user fills out the form:

Verification: Correct completion of all relevant fields is ensured by front-end validation.

REST API Call: The form data is submitted in JSON format as a POST request to the back-end API.

Examine surveys:

To read every survey entry, users go to the List All Surveys page.

This page uses a GET request to retrieve data from the back-end and presents it in a table manner.

Additionally, the page offers:

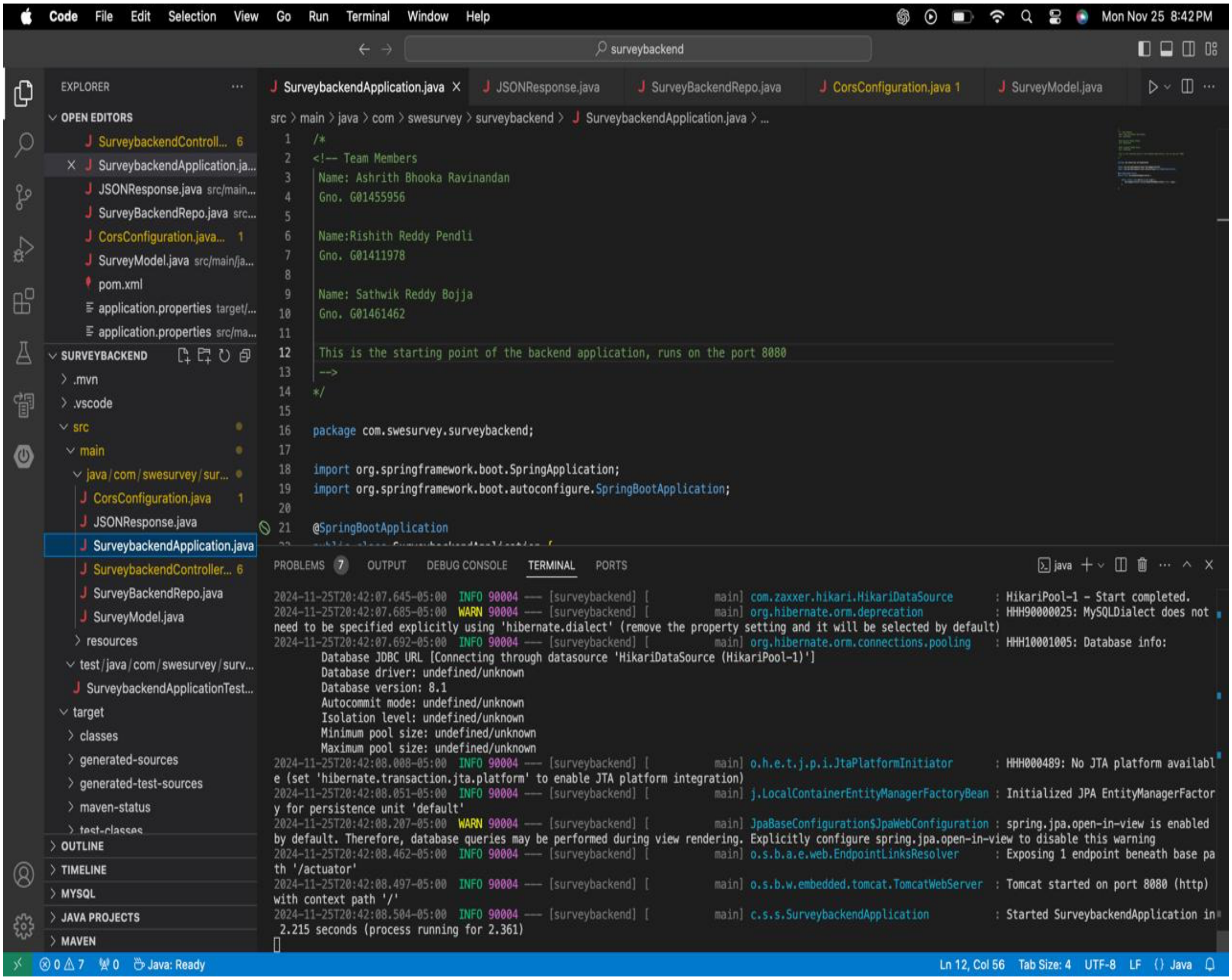
Update Buttons: Let users make changes to an already-existing survey.
Delete Buttons: Allow users to remove a survey.

Workflow at the Back End (Spring Boot Application)

Launch the back-end:

To launch the Spring Boot application, use mvn spring-boot:run.

At http://localhost:8080, the program is operational.



```java
/*
<!-- Team Members
 Name: Ashrith Bhooka Ravinandan
 Gno. G01455956

 Name:Rishith Reddy Pendli
 Gno. G01411978

 Name: Sathwik Reddy Bojja
 Gno. G01461462

 This is the starting point of the backend application, runs on the port 8080
 -->
*/

package com.swesurvey.surveybackend;

import org.springframework.boot.SpringApplication;
import org.springframework.boot.autoconfigure.SpringBootApplication;

@SpringBootApplication
```

```
2024-11-25T20:42:07.645-05:00  INFO 90004 --- [surveybackend] [           main] com.zaxxer.hikari.HikariDataSource       : HikariPool-1 - Start completed.
2024-11-25T20:42:07.685-05:00  WARN 90004 --- [surveybackend] [           main] org.hibernate.orm.deprecation            : HHH90000025: MySQLDialect does not
need to be specified explicitly using 'hibernate.dialect' (remove the property setting and it will be selected by default)
2024-11-25T20:42:07.692-05:00  INFO 90004 --- [surveybackend] [           main] org.hibernate.orm.connections.pooling    : HHH10001005: Database info:
        Database JDBC URL [Connecting through datasource 'HikariDataSource (HikariPool-1)']
        Database driver: undefined/unknown
        Database version: 8.1
        Autocommit mode: undefined/unknown
        Isolation level: undefined/unknown
        Minimum pool size: undefined/unknown
        Maximum pool size: undefined/unknown
2024-11-25T20:42:08.008-05:00  INFO 90004 --- [surveybackend] [           main] o.h.e.t.j.p.i.JtaPlatformInitiator       : HHH000489: No JTA platform availabl
e (set 'hibernate.transaction.jta.platform' to enable JTA platform integration)
2024-11-25T20:42:08.051-05:00  INFO 90004 --- [surveybackend] [           main] j.LocalContainerEntityManagerFactoryBean : Initialized JPA EntityManagerFactor
y for persistence unit 'default'
2024-11-25T20:42:08.207-05:00  WARN 90004 --- [surveybackend] [           main] JpaBaseConfiguration$JpaWebConfiguration : spring.jpa.open-in-view is enabled
by default. Therefore, database queries may be performed during view rendering. Explicitly configure spring.jpa.open-in-view to disable this warning
2024-11-25T20:42:08.462-05:00  INFO 90004 --- [surveybackend] [           main] o.s.b.a.e.web.EndpointLinksResolver      : Exposing 1 endpoint beneath base pa
th '/actuator'
2024-11-25T20:42:08.497-05:00  INFO 90004 --- [surveybackend] [           main] o.s.b.w.embedded.tomcat.TomcatWebServer  : Tomcat started on port 8080 (http)
with context path '/'
2024-11-25T20:42:08.504-05:00  INFO 90004 --- [surveybackend] [           main] c.s.s.SurveybackendApplication           : Started SurveybackendApplication in
 2.215 seconds (process running for 2.361)
```

Respond to API Requests:

RESTful endpoints are exposed by the back-end to manage the following tasks:

Create Survey: Uses JPA/Hibernate to save survey data to the database after accepting POST requests containing the data from the front end.

Retrieve Surveys: Capable of retrieving every survey entry from the database by accepting GET queries.

Survey Update: Allows PUT requests to make changes to an already-existing survey.

Delete Survey: This feature allows you to delete a survey by its ID.

MySQL Database Workflow and Configuration:

The Spring Boot application's application.properties file contains the MySQL configuration.

The file includes information like the username, password, and database URL.

Storage of Data:

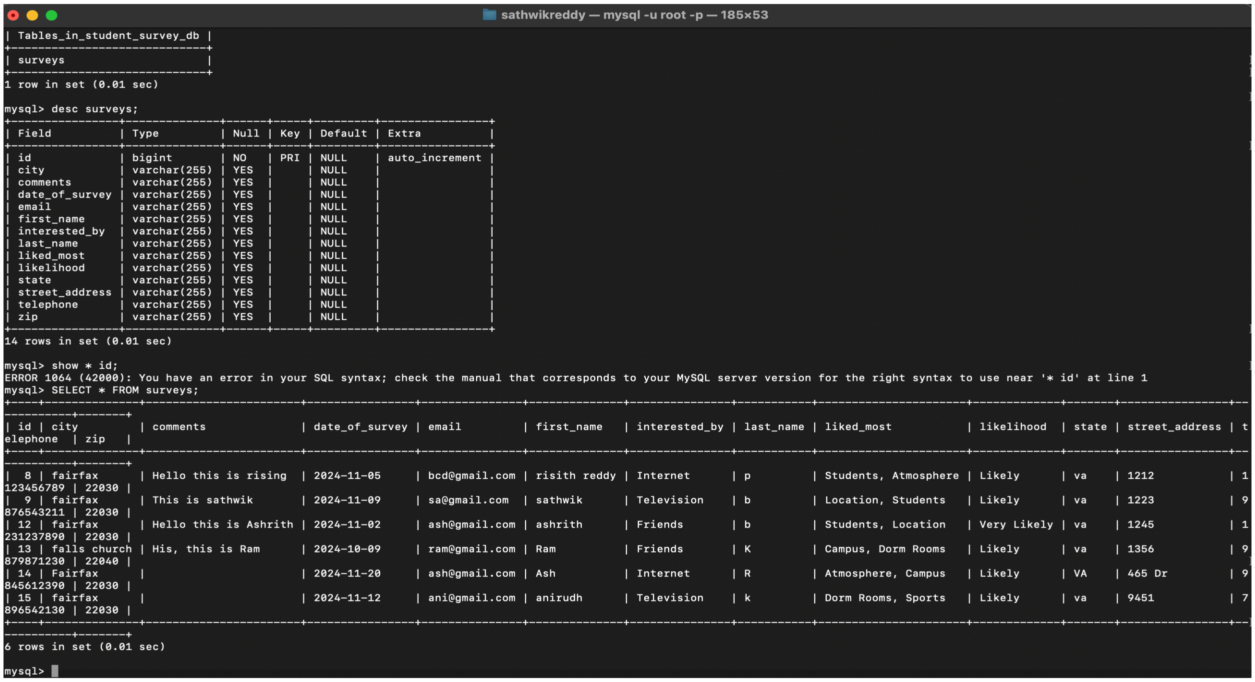
To store survey data, a MySQL database is made with fields that match the inputs on the survey form (e.g., first name, email, comments, etc.).

The data is saved by the back-end as a new row in the table each time a user submits a survey.

Data Updates and Retrieval:

Data is retrieved from the database via the back-end and shown on the List All Surveys page.

The database is updated as users add, edit, or remove entries.



```
| Tables_in_student_survey_db |
+-----------------------------+
| surveys                     |
+-----------------------------+
1 row in set (0.01 sec)

mysql> desc surveys;
+----------------+--------------+------+-----+---------+----------------+
| Field          | Type         | Null | Key | Default | Extra          |
+----------------+--------------+------+-----+---------+----------------+
| id             | bigint       | NO   | PRI | NULL    | auto_increment |
| city           | varchar(255) | YES  |     | NULL    |                |
| comments       | varchar(255) | YES  |     | NULL    |                |
| date_of_survey | varchar(255) | YES  |     | NULL    |                |
| email          | varchar(255) | YES  |     | NULL    |                |
| first_name     | varchar(255) | YES  |     | NULL    |                |
| interested_by  | varchar(255) | YES  |     | NULL    |                |
| last_name      | varchar(255) | YES  |     | NULL    |                |
| liked_most     | varchar(255) | YES  |     | NULL    |                |
| likelihood     | varchar(255) | YES  |     | NULL    |                |
| state          | varchar(255) | YES  |     | NULL    |                |
| street_address | varchar(255) | YES  |     | NULL    |                |
| telephone      | varchar(255) | YES  |     | NULL    |                |
| zip            | varchar(255) | YES  |     | NULL    |                |
+----------------+--------------+------+-----+---------+----------------+
14 rows in set (0.01 sec)

mysql> show * id;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near '* id' at line 1
mysql> SELECT * FROM surveys;
+----+--------------+-----------------------+----------------+---------------+--------------+---------------+-----------+----------------------+-------------+-------+----------------+--
----------+-------+
| id | city         | comments              | date_of_survey | email         | first_name   | interested_by | last_name | liked_most           | likelihood  | state | street_address | t
elephone  | zip   |
+----+--------------+-----------------------+----------------+---------------+--------------+---------------+-----------+----------------------+-------------+-------+----------------+--
----------+-------+
|  8 | fairfax      | Hello this is rising  | 2024-11-05     | bcd@gmail.com | risith reddy | Internet      | p         | Students, Atmosphere | Likely      | va    | 1212           | 1
123456789 | 22030 |
|  9 | fairfax      | This is sathwik       | 2024-11-09     | sa@gmail.com  | sathwik      | Television    | b         | Location, Students   | Likely      | va    | 1223           | 9
876543211 | 22030 |
| 12 | fairfax      | Hello this is Ashrith | 2024-11-02     | ash@gmail.com | ashrith      | Friends       | b         | Students, Location   | Very Likely | va    | 1245           | 1
231237890 | 22030 |
| 13 | falls church | His, this is Ram      | 2024-10-09     | ram@gmail.com | Ram          | Friends       | K         | Campus, Dorm Rooms   | Likely      | va    | 1356           | 9
879871230 | 22040 |
| 14 | Fairfax      |                       | 2024-11-20     | ash@gmail.com | Ash          | Internet      | R         | Atmosphere, Campus   | Likely      | VA    | 465 Dr         | 9
845612390 | 22030 |
| 15 | fairfax      |                       | 2024-11-12     | ani@gmail.com | anirudh      | Television    | k         | Dorm Rooms, Sports   | Likely      | va    | 9451           | 7
896542130 | 22030 |
+----+--------------+-----------------------+----------------+---------------+--------------+---------------+-----------+----------------------+-------------+-------+----------------+--
----------+-------+
6 rows in set (0.01 sec)

mysql> 
```