December 20th, 2017

DESIGN DOCUMENT:

Software Engineering Tool Suite

Rowan University

Senior Project

Professor Baliga

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[Name Main 4](#_Toc501574842)

[Description 4](#_Toc501574843)

[Picture 5](#_Toc501574844)

[Navigation 5](#_Toc501574845)

[End-Points 5](#_Toc501574846)

[Name FacultySearch 6](#_Toc501574847)

[Description 6](#_Toc501574848)

[Picture 6](#_Toc501574849)

[Navigation 6](#_Toc501574850)

[End-Points 6](#_Toc501574851)

[Name University Selection 7](#_Toc501574852)

[Description 7](#_Toc501574853)

[Picture 7](#_Toc501574854)

[Navigation 7](#_Toc501574855)

[End-Points 7](#_Toc501574856)

[Name Password Reset 8](#_Toc501574857)

[Description 8](#_Toc501574858)

[Picture 8](#_Toc501574859)

[Navigation 8](#_Toc501574860)

[End-Points 8](#_Toc501574861)

[Name Faculty Sign Up 9](#_Toc501574862)

[Description 9](#_Toc501574863)

[Picture 9](#_Toc501574864)

[Navigation 9](#_Toc501574865)

[End-Points 9](#_Toc501574866)

[Name Sign Up 10](#_Toc501574867)

[Description 10](#_Toc501574868)

[Picture 10](#_Toc501574869)

[Navigation 10](#_Toc501574870)

[End-Points 10](#_Toc501574871)

[Name Login 11](#_Toc501574872)

[Description 11](#_Toc501574873)

[Picture 11](#_Toc501574874)

[Navigation 11](#_Toc501574875)

[End-Points 11](#_Toc501574876)

[Name: Profile 12](#_Toc501574877)

[Description 12](#_Toc501574878)

[Picture 12](#_Toc501574879)

[Navigation 12](#_Toc501574880)

[End-Points 12](#_Toc501574881)

[Name Tool Kit 13](#_Toc501574882)

[Description 13](#_Toc501574883)

[Picture 13](#_Toc501574884)

[Navigation 13](#_Toc501574885)

[End-Points 13](#_Toc501574886)

[Name Delete Tools 14](#_Toc501574887)

[Description 14](#_Toc501574888)

[Picture 14](#_Toc501574889)

[Navigation 14](#_Toc501574890)

[End-Points 14](#_Toc501574891)

[Name ToolSearch 15](#_Toc501574892)

[Description 15](#_Toc501574893)

[Picture 15](#_Toc501574894)

[Navigation 15](#_Toc501574895)

[End-Points 15](#_Toc501574896)

[Name Add Tools 16](#_Toc501574897)

[Description 16](#_Toc501574898)

[Picture 16](#_Toc501574899)

[Navigation 16](#_Toc501574900)

[End-Points 16](#_Toc501574901)

[Name GuideLineofSuccess 17](#_Toc501574902)

[Description 17](#_Toc501574903)

[Picture 17](#_Toc501574904)

[Navigation 17](#_Toc501574905)

[End-Points 17](#_Toc501574906)

[Name ListOfClubs 18](#_Toc501574907)

[Description 18](#_Toc501574908)

[Picture 18](#_Toc501574909)

[Navigation 18](#_Toc501574910)

[Name Contact 19](#_Toc501574911)

[Description 19](#_Toc501574912)

[Picture 19](#_Toc501574913)

[Navigation 19](#_Toc501574914)

[Name Manual 20](#_Toc501574915)

[Description 20](#_Toc501574916)

[Picture 20](#_Toc501574917)

[Navigation 20](#_Toc501574918)

[Structure 21](#_Toc501574919)

[Stack 21](#_Toc501574920)

[Operating Environment 21](#_Toc501574921)

[Server 21](#_Toc501574922)

[Database 21](#_Toc501574923)

[Code 21](#_Toc501574924)

[Scheme 21](#_Toc501574925)

[Development Tools 21](#_Toc501574926)

[Repository/Communication 21](#_Toc501574927)

[Web Page Resources 21](#_Toc501574928)

[Cloud Server 22](#_Toc501574929)

[Amazon Web Services 22](#_Toc501574930)

[Service 22](#_Toc501574931)

[Geographic Region 22](#_Toc501574932)

[Security Group 22](#_Toc501574933)

[Website Domain Name System: 22](#_Toc501574934)

[Site Map 23](#_Toc501574935)

[Definitions 24](#_Toc501574936)

[User 24](#_Toc501574937)

[Faculty 24](#_Toc501574938)

[Student 24](#_Toc501574939)

[Toolkit 24](#_Toc501574940)

[University 24](#_Toc501574941)

[Entity Relationship Diagram 1. 25](#_Toc501574942)

[Entity Relationship Diagram 2. 26](#_Toc501574943)

[Tables 27](#_Toc501574944)

[Layout ‘accounts.sql’ 27](#_Toc501574945)

[Layout ‘universities.sql’ 27](#_Toc501574946)

[Table EER Diagram 28](#_Toc501574947)

## Name **Main**

### Description

This page is the first page a user will see after accessing our website through the URL. It will contain a navigation bar. The page will contain four primary features: Login, Sign-Up, About, and Contact.

### Picture



### Navigation

To: Sign Up Page, Login Page, About Us Page, Contact Us Page.

From: Main page.

### End-Points

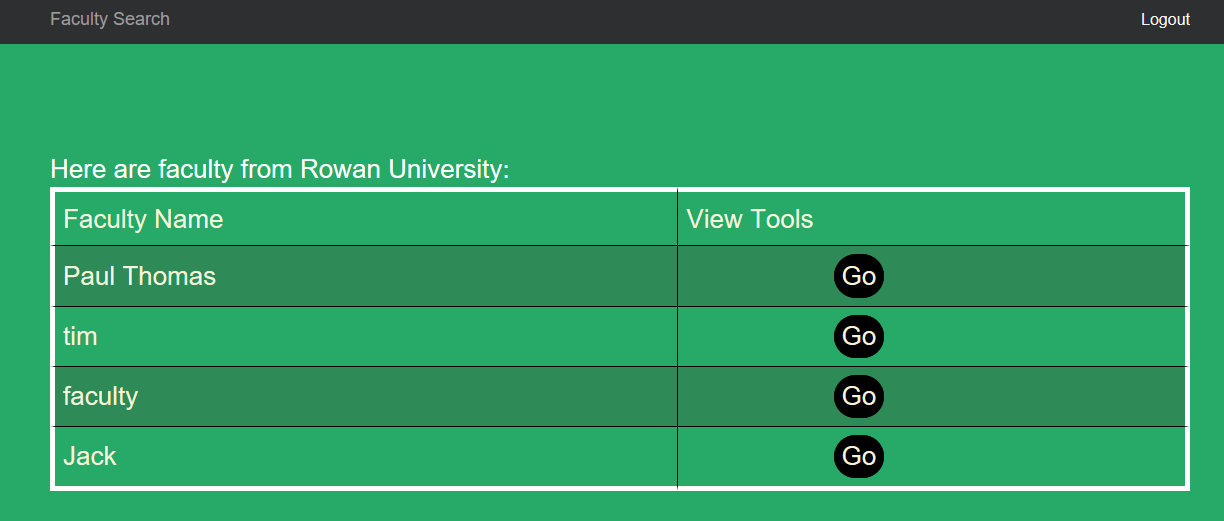
*No change in endpoints.*

## Name **FacultySearch**

### Description

This page is the first page a user will see after accessing our website through the URL. It will contain a navigation bar. The page will contain four primary features: Login, Sign-Up, About, and Contact.

### Picture



### Navigation

To: Sign Up Page, Login Page, About Us Page, Contact Us Page.

From: Main page.

### End-Points

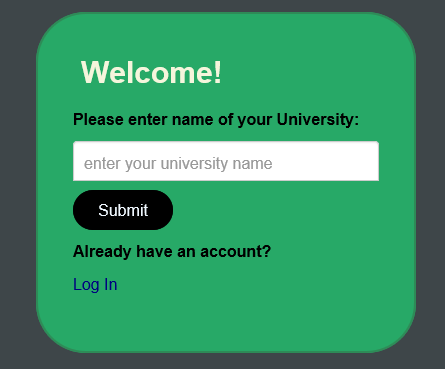
*No change in endpoints.*

## Name **University Selection**

### Description

This page is the first page a user will see after selecting the Sign-Up button on the Main Page. The primary feature of this page is the capability for a user to validate their New Jersey State University in the websites database.

### Picture



### Navigation

To: Sign Up Page, Login Page, Main, Password Reset.

From: Main page.

### End-Points

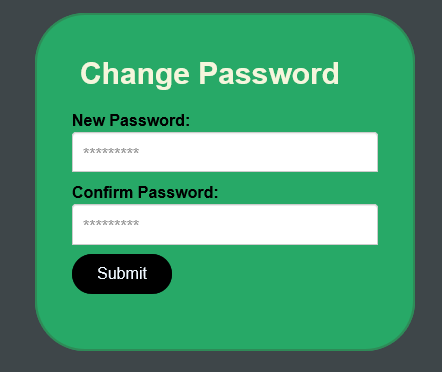
*No change in endpoints.*

## Name **Password Reset**

### Description

This page is available to users from the Login in page and provides users a way to reset their passwords. The user will be prompted to fill in the following fields:

### Picture



### Navigation

To: Password Reset, Login

From: Login.

### End-Points

*The Data Table titled, ‘users’ in the database ‘accounts’ updates the columns ‘username’, ‘dob’ and ‘name’.*

## Name **Faculty Sign Up**

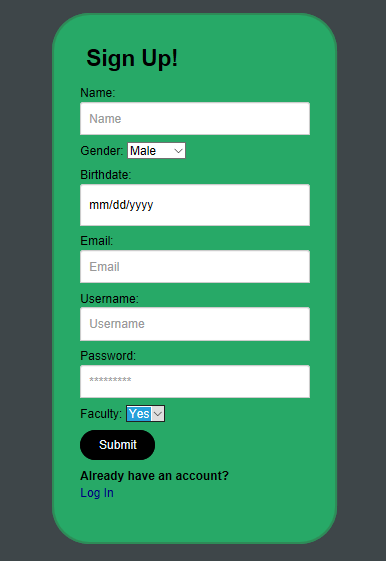
### Description

This page will have appropriate questions for faculty member to sign them up as a faculty.

Fields include:

Name, Gender, Birthdate, Email, Username, Password, and Faculty Selection.

### Picture



### Navigation

To: Profile Page

From: University Selection

### End-Points

The Data Table, ‘users’ exists in the ‘accounts’ database which contains Faculty Member information, and will get updated every time a Faculty Member registers with the website by Signing Up. The column that is updated to delineate faculty from student is titled ‘faculty’ and is of the value varchar(10). When the ‘faculty’ value is set to, ‘YES’, in the ‘accounts’ database a faculty profile experience is created.

## Name **Sign Up**

### Description

This page will have appropriate questions for a student to sign them up as a student.

Fields include:

Name, Gender, Birthdate, Email, Username, Password, and Faculty Selection.

### Picture



### Navigation

To: Profile Page

From: University Selection

### End-Points

The Data Table, ‘users’ exists in the ‘accounts’ database which contains Student information, and will get updated every time a Student registers with the website by Signing Up. The column that is updated to delineate students from a faculty member is titled ‘faculty’ and is of the value varchar(10). When the ‘faculty’ value is set to, ‘NO’, in the ‘accounts’ database a student profile experience is created.

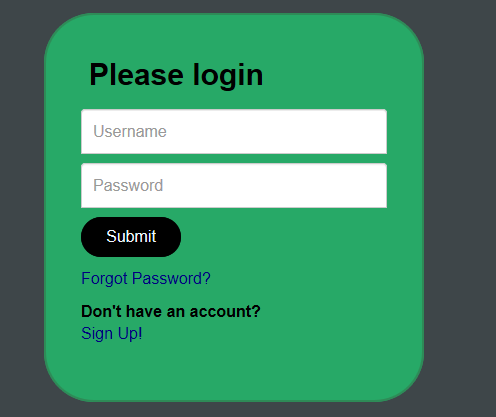
## Name **Login**

### Description

This page will ask the user (Student or Faculty) to enter their login credentials.

This page includes two (2) fields: Username and Password.

### Picture



### Navigation

To: Student Welcome OR Faculty Welcome

From: Main

### End-Points

The Data Table ‘users’ in the database ‘accounts’ for the User Credentials (username and password) will be used to verify the user’s credentials by evaluation and comparison.

## Name: **Profile**

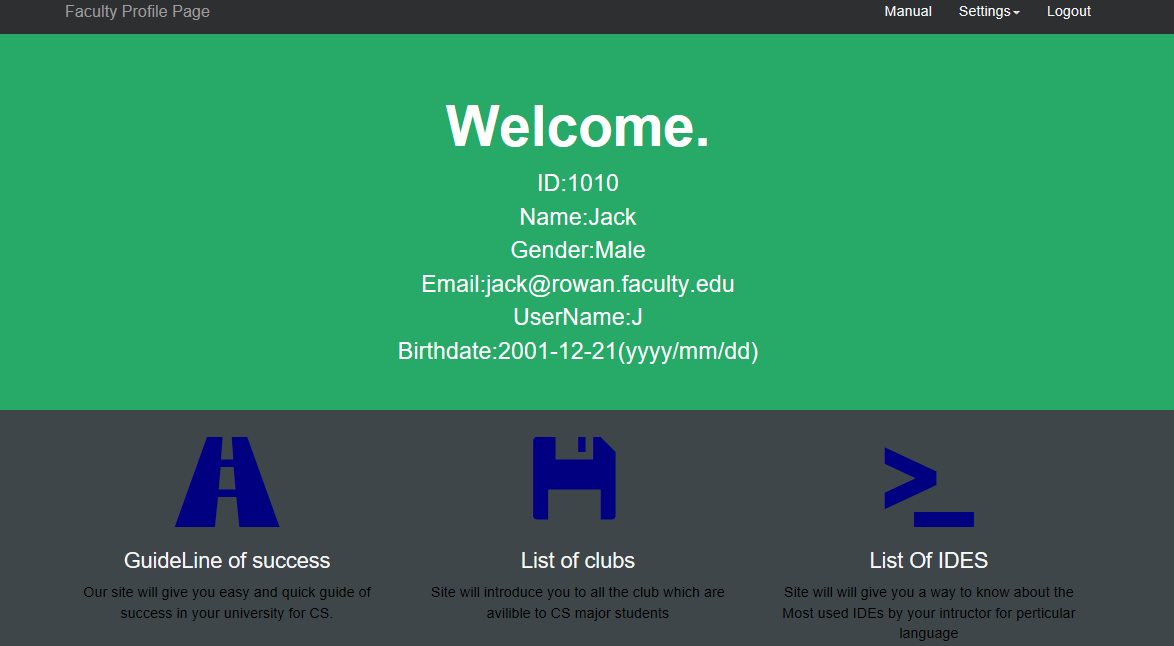
### Description

### 

This page will display basic profile information and allow a registered User to customize their profile with basic personal information. The options for profile customization include: Change Password, Change Username, Change Name, Change Email, Change Gender, and Change Date.

### 

### Picture



### Navigation

To: Change <field\_name>, IDE Tool Page, Guide Line of Success, List of Clubs

From: Sign Up, Login, Tool Page

### End-Points

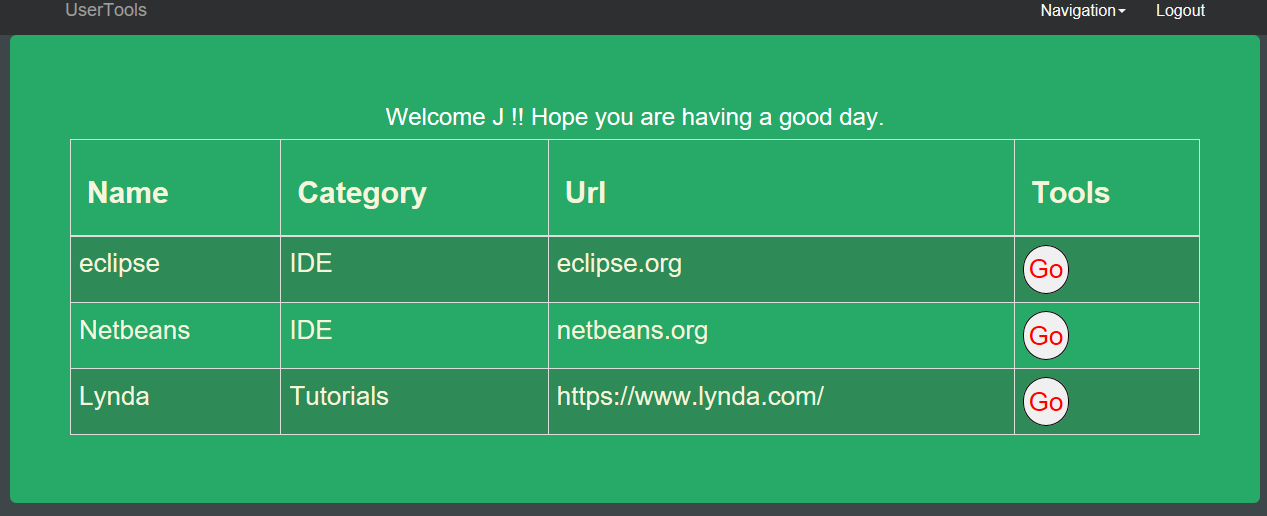
*The Data Table ‘users’ in the database ‘accounts’, will update a User’s personal information and display basic user profile information as appropriate.*

## Name **Tool Kit**

### Description

This Tool Kit will be dynamically adjustable and may contain 1..N tools as selected by each user.

### Picture



### Navigation

To: Profile Page, Login, Delete Tools, Search

From: Profile

### End-Points

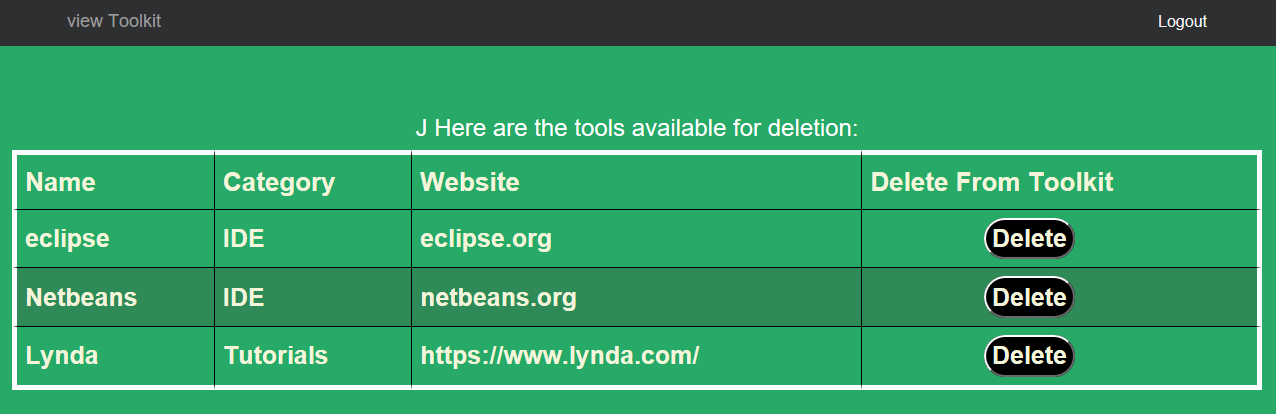
*The Data Table ‘tools’ in the database ‘accounts’ will add a Students Tool based on its unique university id.*

## Name **Delete Tools**

### Description

This page is designed to delete a tool from a Users’ toolkit.

### Picture



### Navigation

To: Profile, Login, Main, Tool Kit

From: Tool Kit

### End-Points

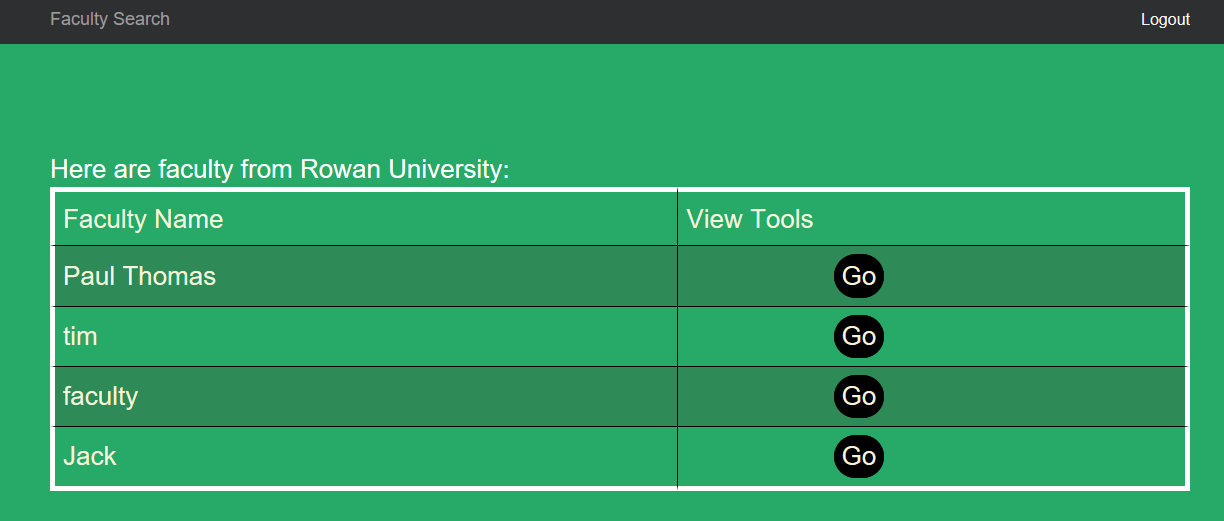
*The Data Table ‘tools’ in the database ‘accounts’ will delete a Tool based on its unique university id.*

## Name **ToolSearch**

### Description

This page is designed to search tools from other Universities to add common tools to the User Toolkit.

### Picture



### Navigation

To: Profile Page, Login, Delete Page, Search

From: Student Welcome

### End-Points

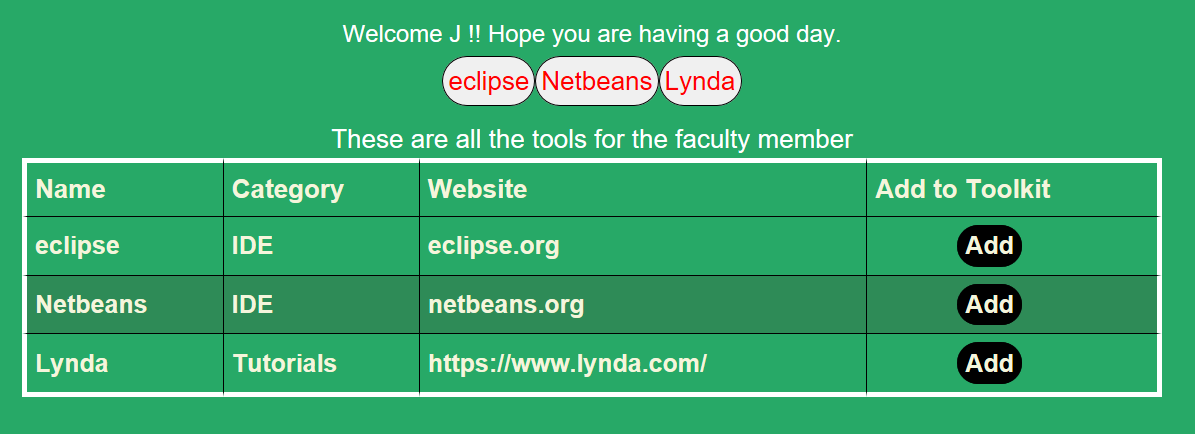
*No change in endpoints.*

## Name **Add Tools**

### Description

This page is designed to add tools from other Universities to the User Toolkit.

### Picture



### Navigation

To: Main, Profile, Search,

From: Search

### End-Points

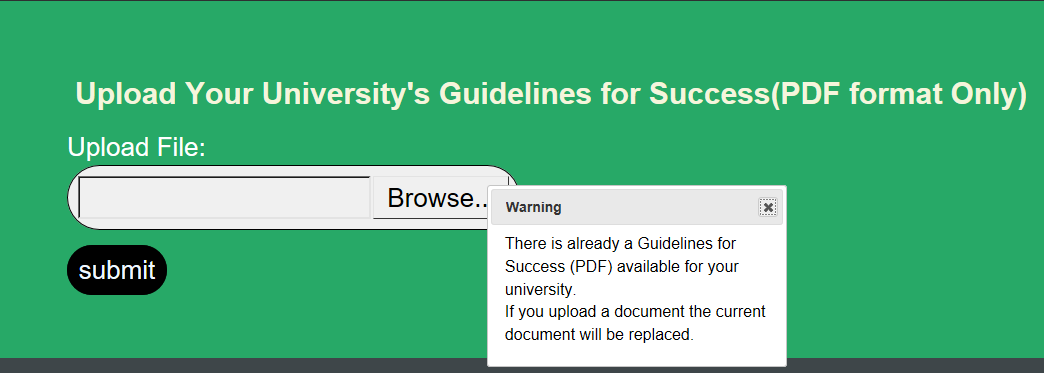
*The Data Table ‘tools’ in the database ‘accounts’ will update the tools selected based on its unique university id.*

## Name **GuideLineofSuccess**

### Description

This page is designed to upload a PDF file format of a Professor’s/Universities Guideline of Success.

### Picture



### Navigation

To: Main, Profile

From: Profile

### End-Points

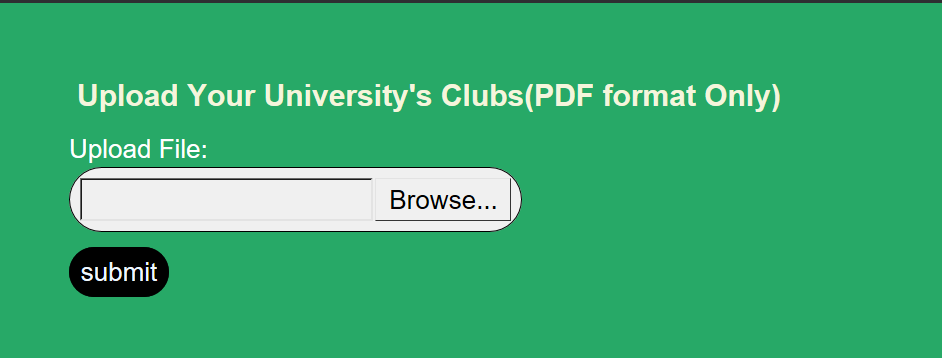
*The Data Table ‘tools’ in the database ‘accounts’ will update the tools selected based on its unique university id.*

## Name **ListOfClubs**

### Description

This page is designed to upload a PDF file format of a Professor’s/Universities List of Clubs.

### Picture



### Navigation

To: Main, Profile

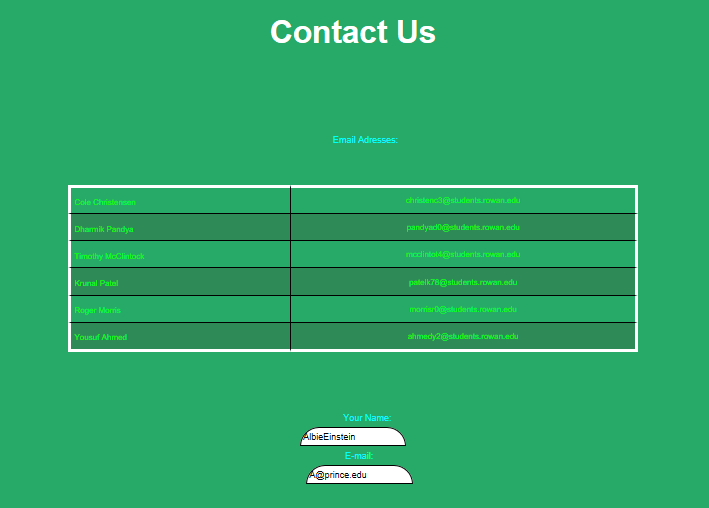
From: Profile

## Name **Contact**

### Description

This page is designed to provide contact information.

### Picture



### Navigation

To: Main, Profile

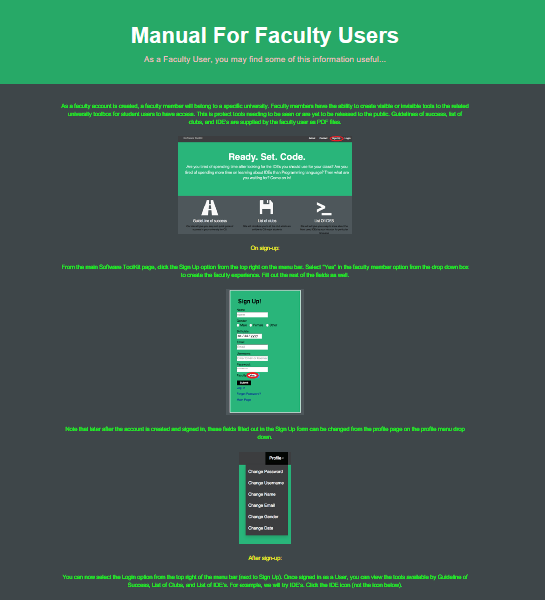
From: Main

## Name **Manual**

### Description

This page is designed to provide the appropriate manual for either a Faculty member or Student..

### Picture



### Navigation

To: Main, Profile

From: Profile

# Structure

### Stack

#### Operating Environment

***Microsoft x86\_64***

#### Server

***Apache/AWS***

#### Database

***MySQL***

#### Code

***PHP***

#### Scheme



Figure 1. Full Stack Architecture Scheme

### Development Tools

#### Repository/Communication

***GitHub, Slack, Trello***

#### Web Page Resources

***Bootstrap, JQuery, AJAX***

# Cloud Server

### Amazon Web Services

#### Service

***EC2 (Elastic Cloud Computing)***

#### Geographic Region

***Virginia, United States of America (US-EAST)***

#### Security Group

***Virtual Private Cloud Security Group:*** SWET\_SG\_useast1

#### Website Domain Name System:

***ec2-54-243-9-126.compute-1.amazonaws.com***

# Site Map

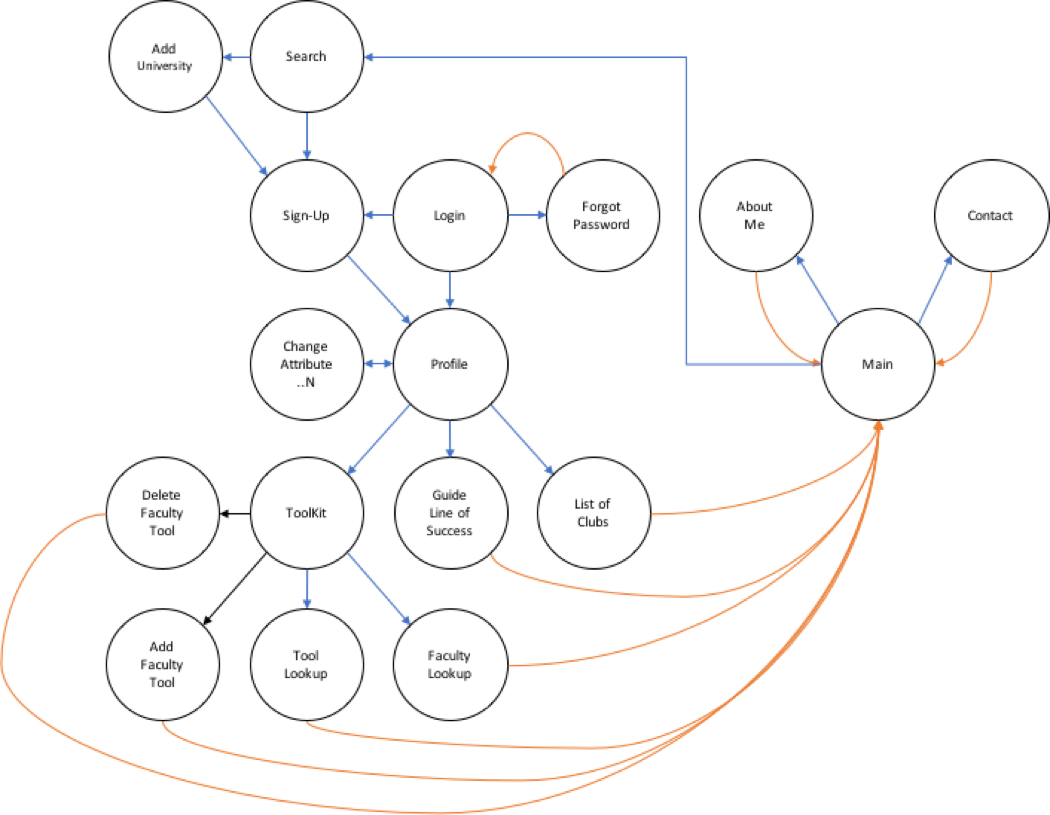


Figure 2. Site Map

# Definitions

## User

A user is defined as any entity that can create an account. A user is exclusively required to have an ‘.edu’ email account to register. As it pertains to this database a user will be defined as either a Student or Faculty. A University entity is associated to a Faculty member of the University once the Faculty member registers. A Student can only create an account if their University is registered in the database. The Faculty and Student Entities will all be linked to a Toolkit Entity.

### Faculty

A Faculty Entity has the following unique attributes: ID/Primary Key, Username and Email. A Faculty user also has DOB (date of birth), University Name, Name, Password, Role, and Gender. Each attribute has the following datatypes: ID/Primary Key: INT, Username: VARCHAR (100), Email: VARCHAR (100), DOB: DATE, University Name: VARCHAR (100), Name: VARCHAR (100), Password: VARCHAR (100), Role: VARCHAR (15), and Gender: VARCHAR (15). A Faculty and University account will be created simultaneously if the University is not in the database. The Faculty Toolkit is created with the account. The Toolkit will initially be empty/NULL. The Faculty is responsible for populating the Toolkit.

### Student

A Student entity has the following unique attributes: ID/Primary Key, Username and Email. A Student user also has DOB (date of birth), University Name, Name, Password, Role, and Gender. Each attribute has the following datatypes: ID/Primary Key: INT, Username: VARCHAR (100), Email: VARCHAR (100), DOB: DATE, University Name: VARCHAR (100), Name: VARCHAR (100), Password: VARCHAR (100), Role: VARCHAR (15), and Gender: VARCHAR (15). A Student account can only be created if the Student’s university is in the database. A Toolkit is created along with the Student account. The Toolkit will initially be empty/NULL. The Student is responsible for populating the Toolkit.

### Toolkit

The Toolkit entity is utilized by all other entities. The Toolkit has the following attributes: ID/Primary Key (ID/Primary Key from other entities), Name, URL, and Category. Each attribute has the following datatypes: ID/Primary: INT, Name: VARCHAR (100), URL: VARCHAR (100) and Category: VARCHAR (100). The ID/Primary Key of each of the other entities is used to store each entity’s tools.

### University

A University entity has the following unique attributes: ID/Primary Key and University Name. Each attribute has the following datatypes: ID/Primary Key: INT and University Name: VARCHAR (100). A University and its Toolkit are also created by the Faculty. The Faculty is responsible for populating the university’s Toolkit.

## Entity Relationship Diagram 1.

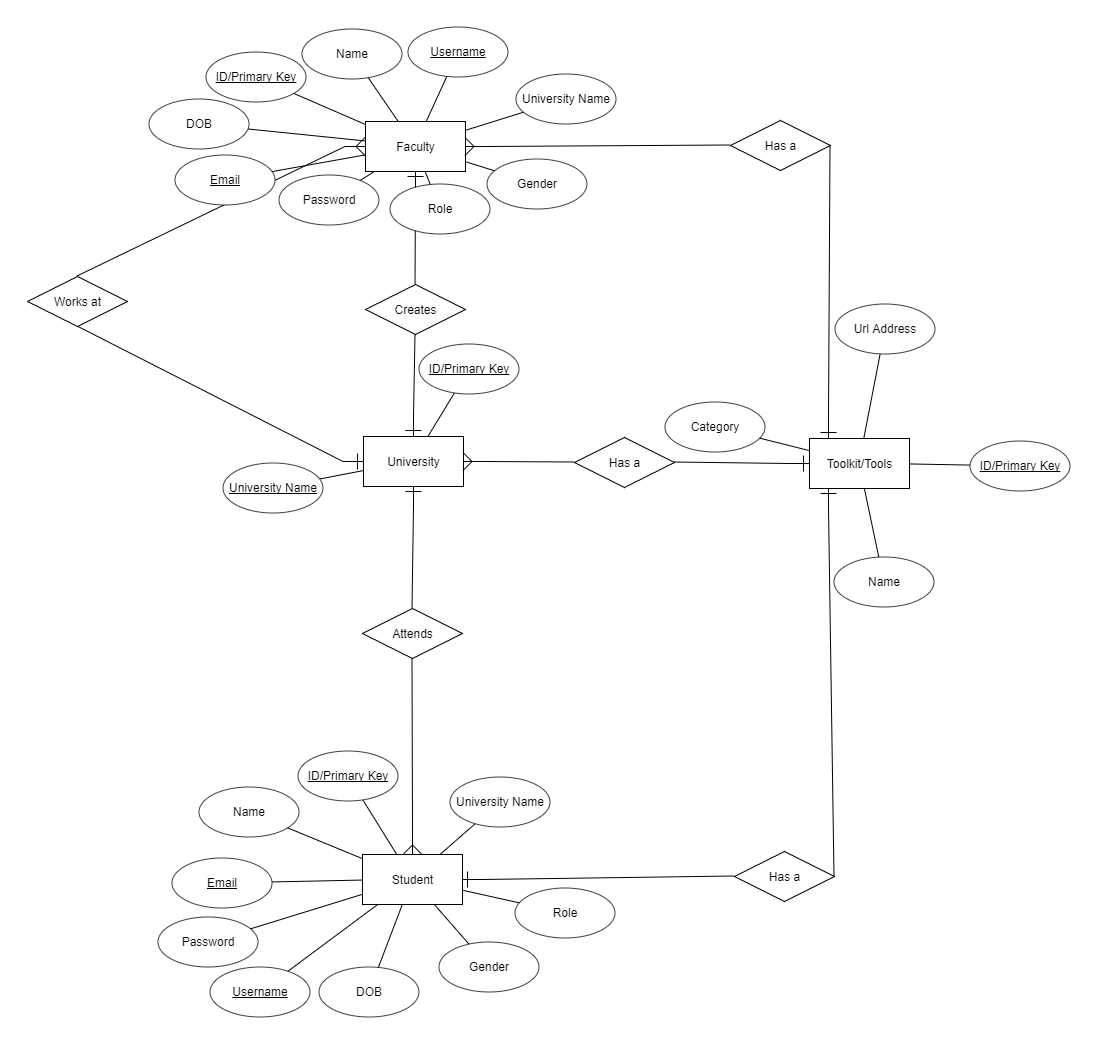


Figure 3. Entity Relationship Diagram

## Entity Relationship Diagram 2.

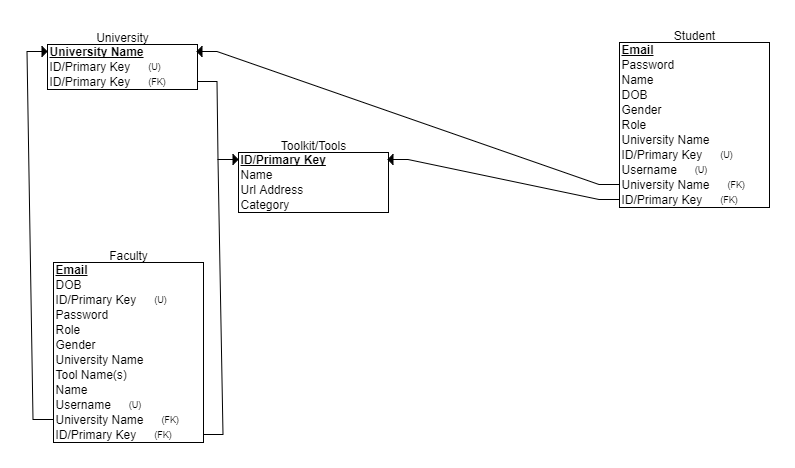


Figure 4. Entity Relationship Diagram

# Tables

## Layout ‘accounts.sql’

|  |  |  |
| --- | --- | --- |
| Name | Columns | Purpose |
| tools | 5 | Maintains basic login data. |
| users | 5 | Maintains Tool Kit data. |
| universities | 9 | Store/Merge User Data |

## Layout ‘universities.sql’

|  |  |  |
| --- | --- | --- |
| Name | Columns | Purpose |
| name | 5 | Maintains a University name attr. |
| univid | 5 | Maintains a UUID. |

Table EER Diagram

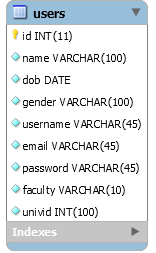
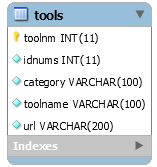
  

Figure 5. EER Table Diagrams produced in MySQL Workbench from accounts.sql and universities.sql schema.