Smart Irrigation Frontend
Developer Documentation

The framework we used to develop this web application is the Grails framework.

For more information, please visit: **https://grails.org/index.html**

Setup/install: **https://grails.org/wiki/installation**

Once setup, open a terminal/command prompt and navigate to the grails-app folder. Once inside the grails-app folder, type **grails run-app** to start the web application. By default, it will run on localhost:8080 (127.0.0.1:8080). The first time you run the grails application, dependencies may need to be downloaded and installed; this will happen automatically.

Users are currently added using the **BootStrap.class** file within **/build/classes/main/simpleappwithsecurity/BootStrap.class**

Create a new Object and assign appropriate attributes (username, password, enabled/disabled) to create a new user.

The web application's controllers are located in **/grails-app/controllers/example/**.

DatabaseClient: Pulls sensor data for the current user from the backend database.

IndexController: Gets the currently logged in user by making a call to LoginController and makes a call to DatabaseClient to grab the user's garden sensor data.

LoginController: Grabs current user from SpringSecurity framework module.

The web application's views are located in **/grails-app/views/**. HTML for web pages is implemented inside of **.gsp** files.

Within **/views/**:

index.gsp is the page that the user is taken to on successful login. The top banner animation was made using Processing (for more information, please visit **https://processing.org/**) and implemented onto the page via a <script> of type text/processing.
Google Charts (for more information, please visit **https://developers.google.com/chart/**) was used to visualize the sensor data with line graphs. It was implemented onto the page via a <script> of type text/javascript. The data used is the sensor data LoginController pulls from the backend database using DatabaseClient for the current user.
The weather module used comes from **http://blog.forecast.io/forecast-embeds/** which provides a seven day forecast of the garden location (longitude and latitude coordinates of the garden). Coordinates are specified in **/views/index.gsp** file (the current file).

Within **/views/login**:

index.gsp is the login page. This is the first page the user is taken to when visiting the site.

Within **/views/logout/**:

index.gsp is the login page that the user is redirected to on logout.

The web application’s assets are located in **/grails-app/assets/**

Within **/assets/stylesheets/**:

main.css contains CSS styling for the login page.

home.css contains CSS styling for the dashboard page the user is redirected to on successful login.

Within **/assets/images/**:

Images used by the web application.