SMART GEYSER

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Project Proposal:

Create an android application than can communicate with NodeMCU microcontroller over the internet using Google's Firebase real-time database. The application will control the motor and leds on the microcontroller along with fetching the readings from the temperature sensors. The application will also for time based changes to the microcontroller.

Note: This project is part of our Final Year Project so we wish to complete this module in Mobile Application Development course as a semester project.

Modules:

Following are the modules of the project:

- Login
- Signup
- Dashboard View and Control
- Firebase Database design
- Firebase Database connection
- Scheduling

Module Distribution:

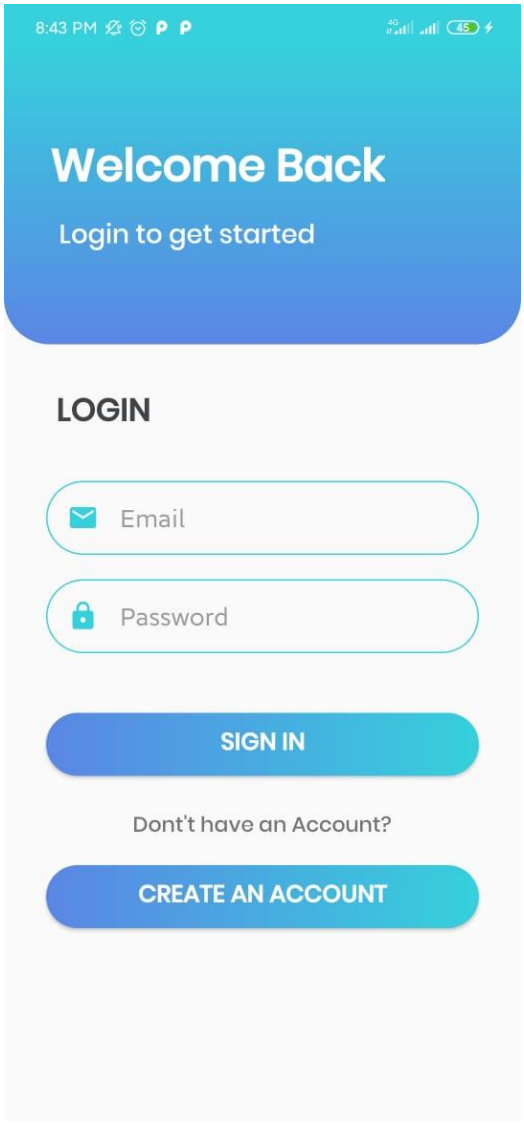
- **Ahsan Usman**

Splash Screen

It is a graphical control element consisting of a window that contains a logo and the name of the application, it will appear when application will be launched and it will be displayed for 4 seconds.

Reviewed by: Waleed Afandi, Shamir Afridi

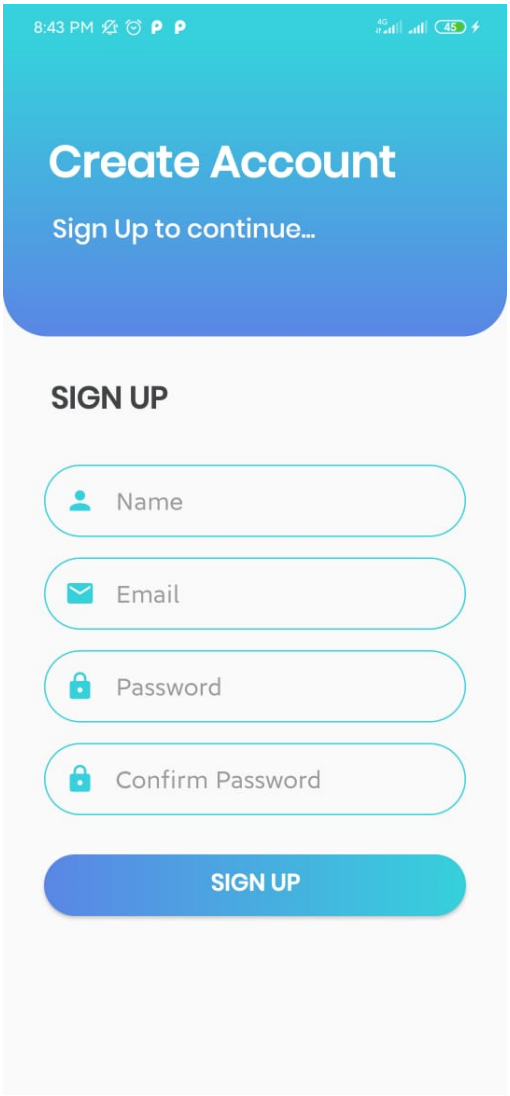
Login



The login activity will provide set of credentials used to authenticate a user.it consist of Email address and password.it is a security measure designed to prevent unauthorized access to data. If the user name and password does not match a user account, the user cannot access the app.

Reviewed by: Waleed Afandi, Shamir Afridi

Sign up / create account



User of the app have the ability to create an account to have access to the application, sign up activity will start when user press (create an account) button from login activity. The user will have to provide name, email and password to register and after pressing signup button the user will have his own account and can access the application by providing credentials in the login activity.

Reviewed by: Waleed Afandi, Shamir Afridi

- **Shamir Afridi**

Dashboard Development:

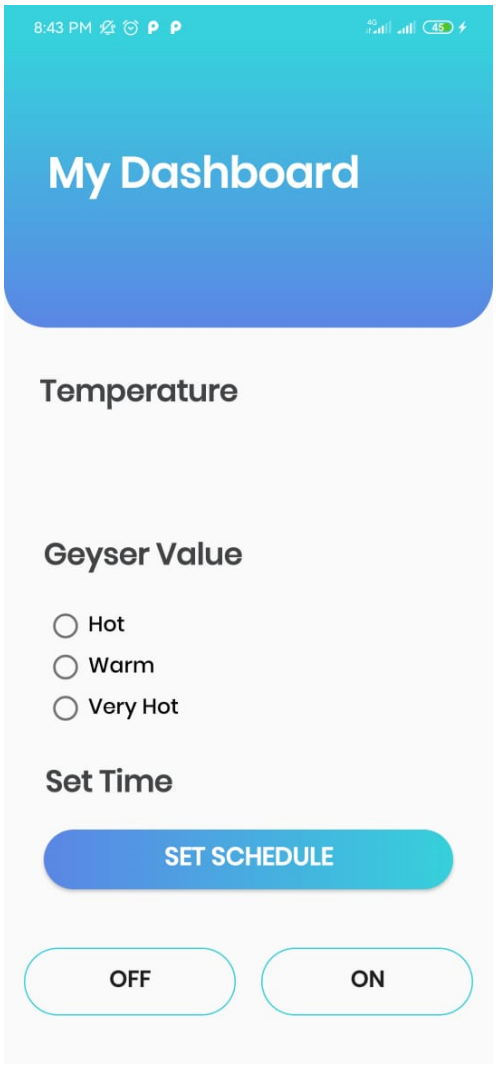
My work is to integrate these components to firebase and set values to firebase so when a user select an option functions trigger according to it.

In our project, Temperature sensor is using for getting the current temperature of the geyser by the user so he can set his geyser temperature according to it. For setting the value of the geyser menu is giving so the user can set it accordingly to warm, hot and very hot. In the last, ON/OFF button is added for setting the geyser on and off.

Reviewed By:

- Waleed Afandi
  Comments:
  Add icons for and animation for temperature.

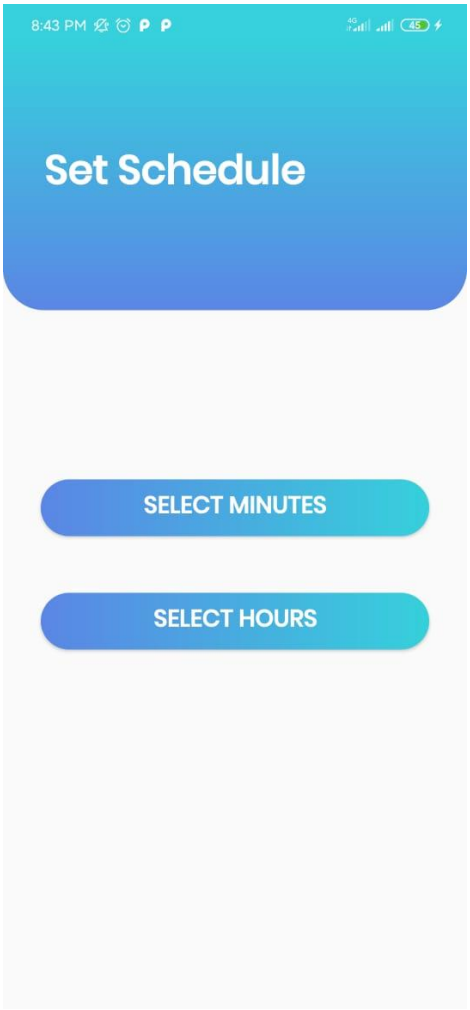
- Ahsan Usman:
  Comments:
  Add rotating dial for geyser value.



- **Waleed Afandi**

Scheduling:

This module will add the scheduling activity to the activity, much like an alarm app. The user will enter time and date and set geyser's temperature according to the requirement. When the specific time is reached, the application will send the designated values to the firebase. This functionality will require the android alarm manager class to be included.



Reviewed By:

- Shamir Afridi
  Comments:
  Add date and time picker.

- M.Ahsan Usman
  Comments:
  Nil