CS5551-ADVANCED SOFTWARE ENGINEERING

LAB ASSIGNMENT-2

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STEPS:

1. First we need to download Android studio.
2. Start a new Android studio Project.
3. Then **API 15**: **Ice Cream Sandwich** has been selected.
4. A Blank Layout is selected and Login Interface has been designed with **EditText**, **Button**, **TextView** elements.
5. Content of this layout has been mapped to **LoginActivity**.**class**.
6. Button has an **onClick** event listener, which triggers Login validation method of **LoginActivity**.**class**.
7. Upon successful validation user is redirected to **GetWeather**.**class** which invokes layout **activity_getweather**.**xml**.
8. When the user enters Zip in **EditText** and taps on Get Weather, **FetchWeather** method is invoked which users **OpenWeatherMap** API to get the weather details of the ZIP code entered by User in JSON format.
9. The JSON response contains both Arrays and Objects, they are parsed accordingly and the Temperature which is returned in kelvin is first converted into Double and then converted into Fahrenheit.
10. City name, Clouds description are parsed from the response and they are stored in a string.
11. The string is displayed in the Layout using **SetText** method.

APPLICATION FLOW OF WEATHER APP:

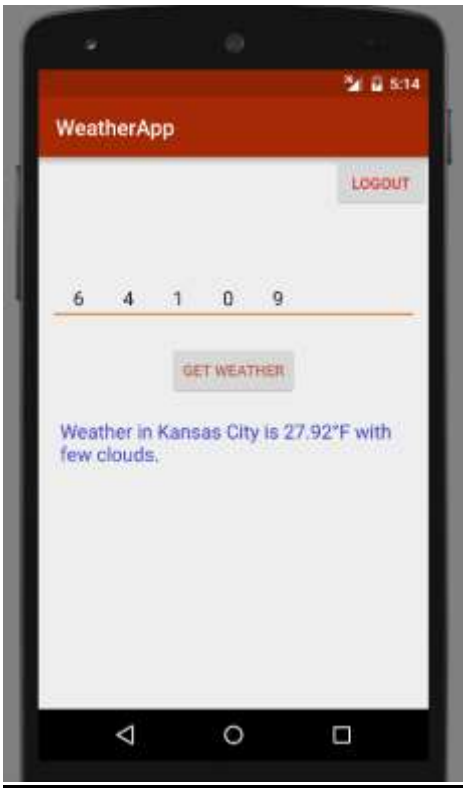
1. First the user is required to login, when the user credentials are validated he will be redirected to home screen.
2. On the home screen, user needs to enter **5**-**digit** ZIP code (US Only).
3. When the user enters the **5**-**Digit** Zip code and taps on Get Weather details, Fetch method is invoked and the user input string is stored in a variable and a GET request is made to the Open Weather Map API.
4. **OpenWeatherMaps API** returns a JSON response which contains the weather details of the ZIP code entered by the user.
5. The JSON data is parsed and is presented on the layout.

SCREENSHOTS:

LOGIN PAGE:

INVALID LOGIN PAGE:

WEATHER REPORTS:



5:17
WeatherApp
LOGOUT
2 0 0 0 1
GET WEATHER
Weather in District of Columbia is
56.36°F with heavy intensity rain.