

ICP10 Report

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github: <https://github.com/GollapudiSrikanth/WebMobileSpring2022/tree/main/Mobile/ICP10>

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github: https://github.com/MangiVarunReddy/Webcourse/tree/main/Mobile_part/ICP10

Task Performed

1. Created an empty project in the Android Studio with the name of ICP10 and added two dependencies which are retrofit2.9.0, converter-gson:2.9.0.
2. In this ICP10 project, created a new java class file with the name User.java which acts as a data transfer object which consists of id and username with getters and setters.
3. In the layout added a text field with id of 'text1' and added a nested scroll view to the text1 which gives the way to scroll up and down.
4. In the onCreate function in the MainActivity.java, retrofit api is used consumed the github rest api to fetch the users data.
5. On Successful call of api, response is collected in the onResponse method and casted to User class which is collected in the list.
6. The collected list is then displayed in the text view which is present in the MainActivity.xml and displayed to the user.

OutCome

From this task we are able to create an application for mobile devices and able to test and develop the application in the android studio.

Task Distribution

Work Contributed was equally distributed together.

Task Screenshots:

Fig-1: Below picture represents, adding Scroll Bar to the textview

```
<androidx.core.widget.NestedScrollView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    tools:ignore="MissingConstraints">
    <TextView
        android:id="@+id/text1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text=""
        android:textSize="25sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent" />
</androidx.core.widget.NestedScrollView>
```

Fig-2: Dependencies added to the project in the build.gradle file

```
implementation 'com.squareup.retrofit2:retrofit:2.9.0'
implementation 'com.squareup.retrofit2:converter-gson:2.9.0'
```

Fig-3: User Entity used for casting the output response of the api

```
public class User {
    private int id;

    @SerializedName("login")
    private String username;

    public String getUsername() { return username; }

    public void setUsername(String username) { this.username = username; }

    public int getId() { return id; }

    public void setId(int id) { this.id = id; }
}
```

Fig-4: Consuming the rest-api using retrofit dependency

```
@Override
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);

    textView = findViewById(R.id.text1);
    Retrofit retrofit = new Retrofit.Builder()
        .baseUrl("https://api.github.com/")
        .addConverterFactory(GsonConverterFactory.create())
        .build();

    ApiCollections apiCollections = retrofit.create(ApiCollections.class);
    Call< List<User>> usersCall = apiCollections.getData();

    usersCall.enqueue(new Callback<List<User>>() {
```

Fig-5: On successful rest-api response, converting the response to users list and displays o/p

```
@Override
public void onResponse(Call<List<User>> call, Response<List<User>> response) {

    if(response.isSuccessful()){
        List<User> users = response.body();
        for(User user: users){
            String data = "";
            data+="ID: "+user.getId()+" Username: "+ user.getUsername()+"\n";

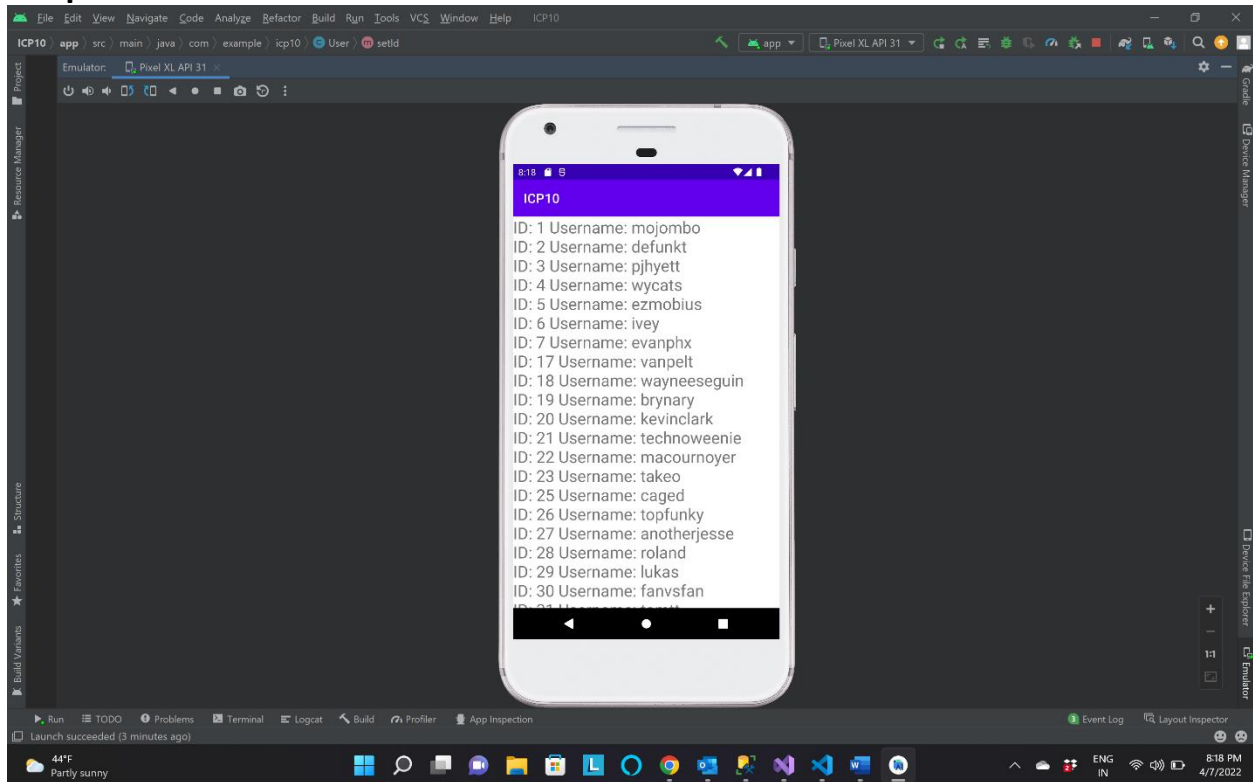
            textView.append(data);
        }
    }
}
```

Fig-6: On Failure of getting the response from the rest-api the this function executes

```
@Override
public void onFailure(Call<List<User>> call, Throwable t) {
    Toast.makeText(context: MainActivity.this, text: "Data failed",Toast.LENGTH_SHORT);
}

});
}
```

Output Screenshots



- Onscrolling the screen remaining output is shown in the below figure

