Project 4 - College Football App
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Extra grace days given by Marty Barrett

Description:
My application takes a search string (which should be the name of a college football team) from the user and uses it to output an image of the college football team's logo and information about the team.

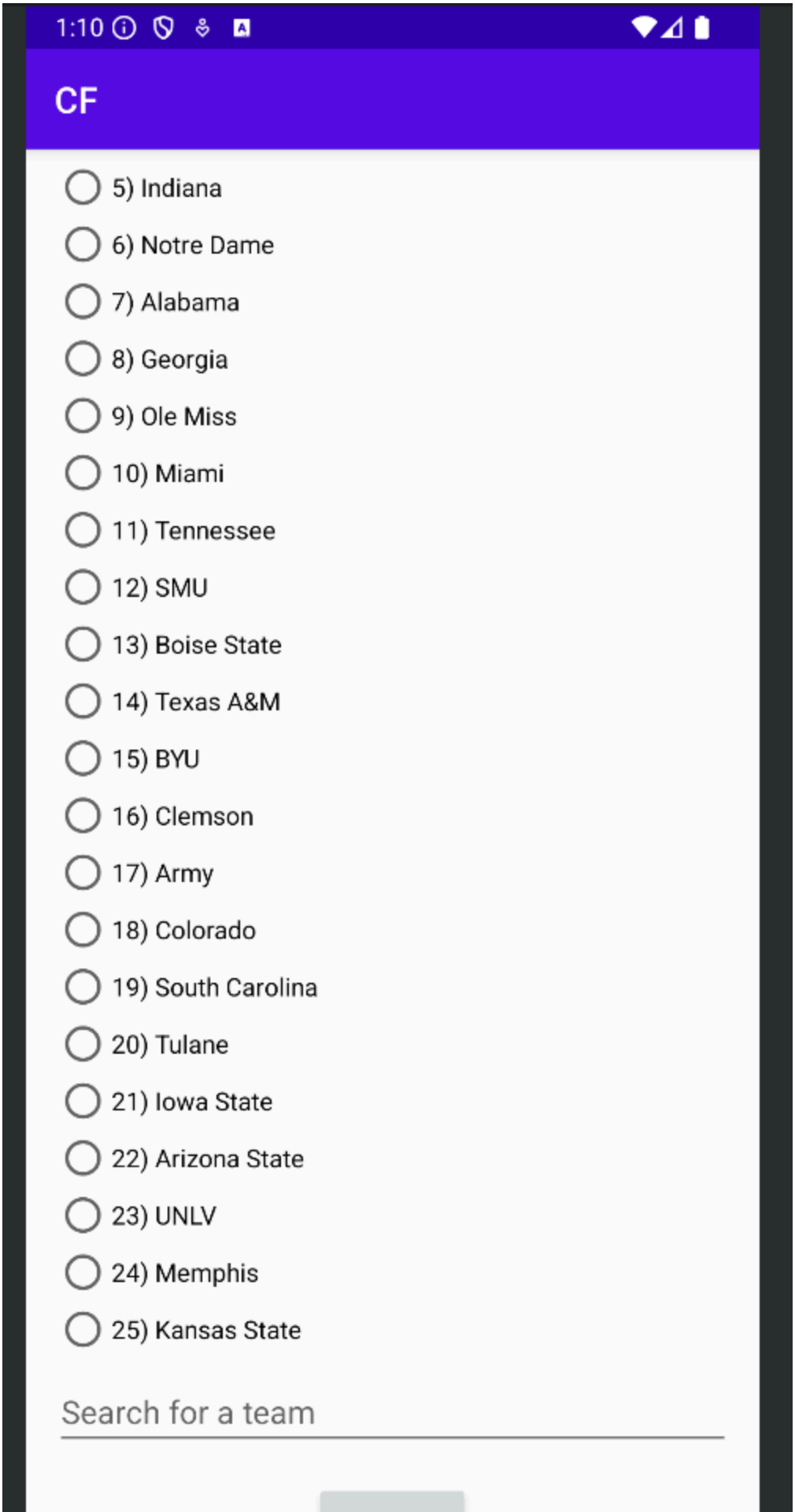
1) Implement a native Android application

   The name of my native Android application project in Android Studio: CF

   a) Has at least three kinds of views in your layout

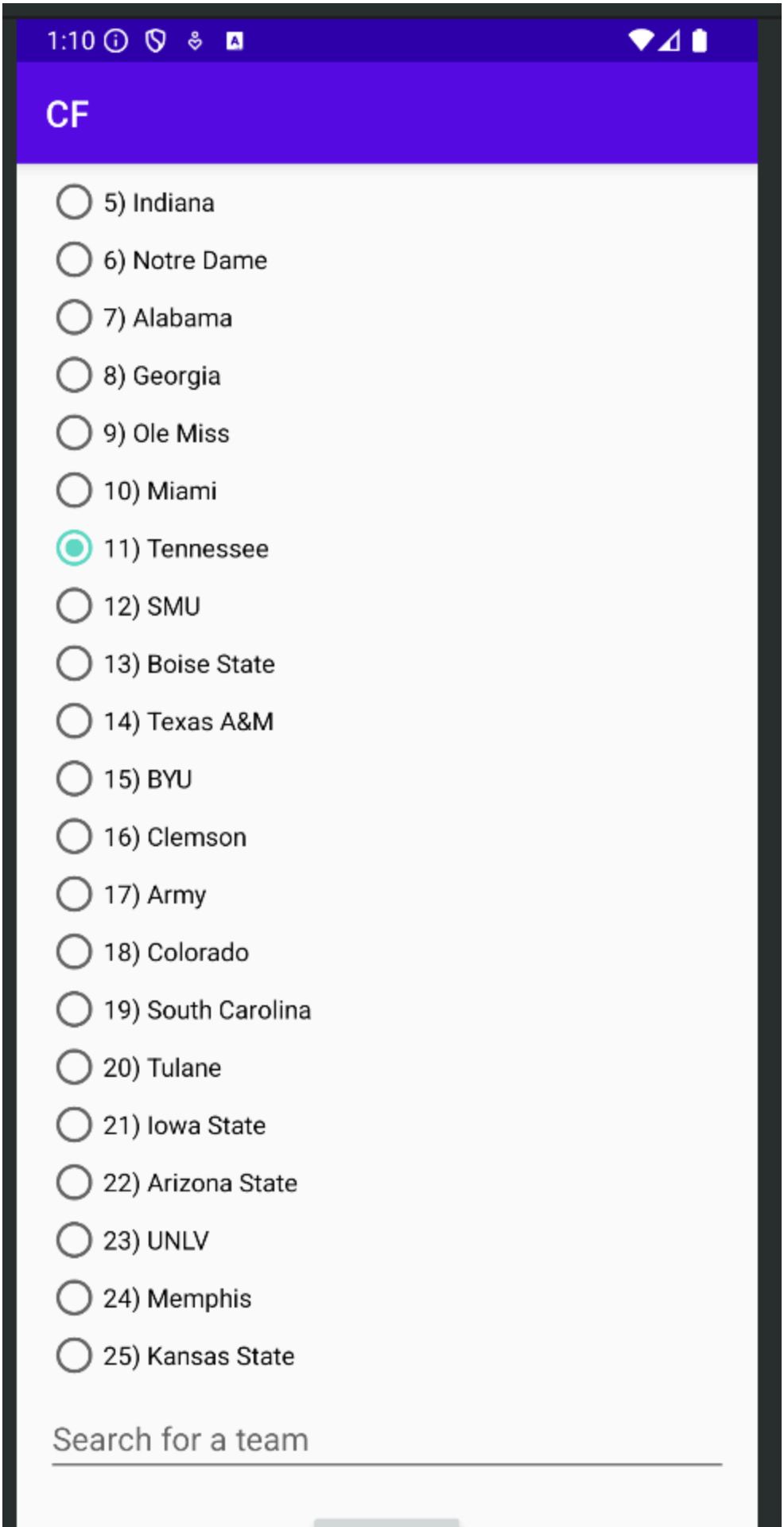
      My application uses TextView, Button, EditText and ImageView. See content_main.xml for details of how they are incorporated into the LinearLayout.

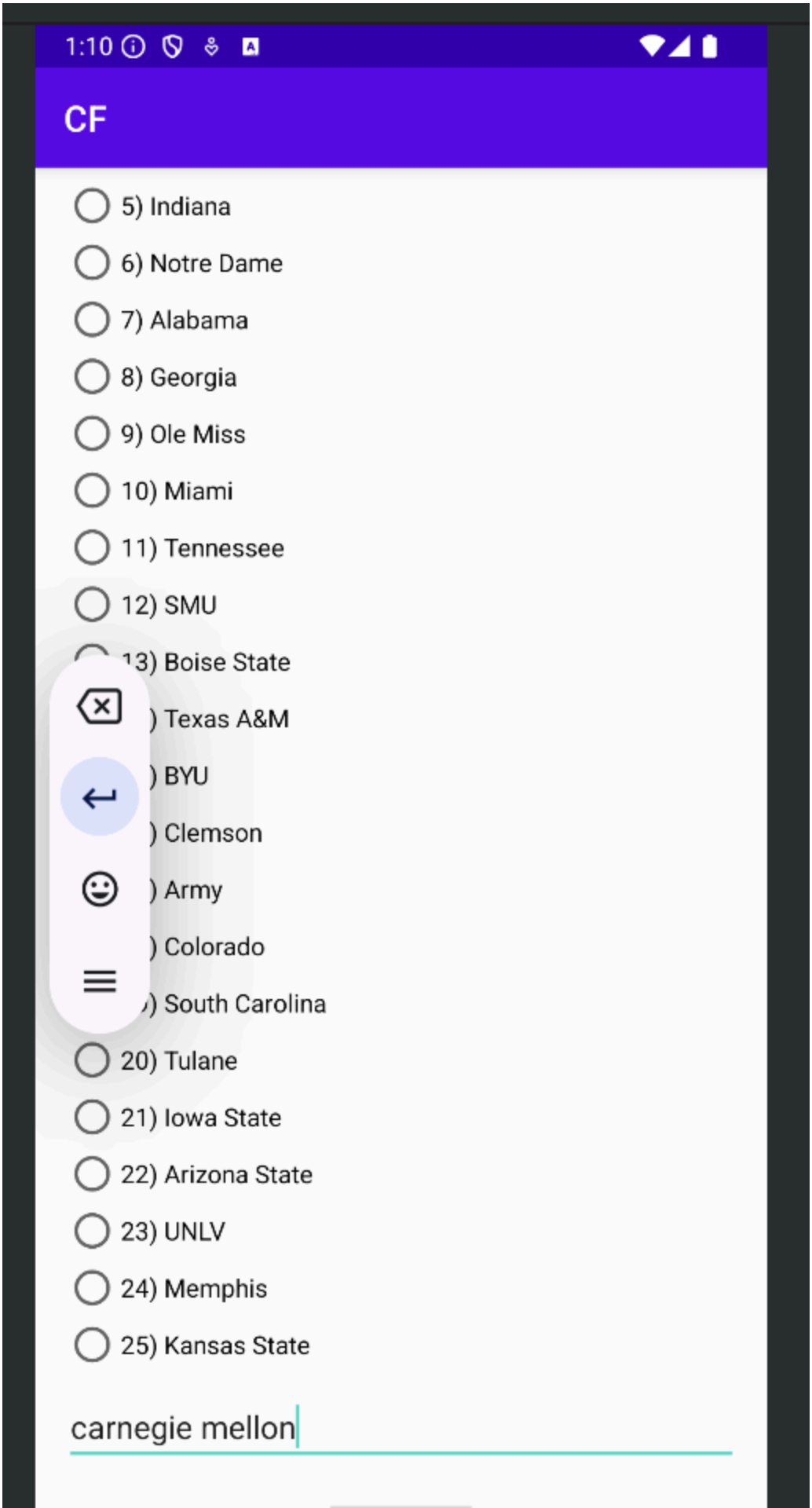
      Here is a screenshot of the layout before the team details have been fetched.


1:10
CF
5) Indiana
6) Notre Dame
7) Alabama
8) Georgia
9) Ole Miss
10) Miami
11) Tennessee
12) SMU
13) Boise State
14) Texas A&M
15) BYU
16) Clemson
17) Army
18) Colorado
19) South Carolina
20) Tulane
21) Iowa State
22) Arizona State
23) UNLV
24) Memphis
25) Kansas State
Search for a team

b) Requires input from the user

Here are screenshots before either selecting a ranked team or searching for a team in the search bar.


1:10
CF
5) Indiana
6) Notre Dame
7) Alabama
8) Georgia
9) Ole Miss
10) Miami
11) Tennessee
12) SMU
13) Boise State
14) Texas A&M
15) BYU
16) Clemson
17) Army
18) Colorado
19) South Carolina
20) Tulane
21) Iowa State
22) Arizona State
23) UNLV
24) Memphis
25) Kansas State
Search for a team


1:10
CF
5) Indiana
6) Notre Dame
7) Alabama
8) Georgia
9) Ole Miss
10) Miami
11) Tennessee
12) SMU
13) Boise State
) Texas A&M
) BYU
) Clemson
) Army
) Colorado
) South Carolina
20) Tulane
21) Iowa State
22) Arizona State
23) UNLV
24) Memphis
25) Kansas State
carnegie mellon

c) Makes an HTTP request

My application does an HTTP GET request in TeamDataActivity.java. The HTTP request is:
"https://cuddly-happiness-7g79vj96rv3xj79-8080.app.github.dev/api/team/" + team" where team is the user's search term for a team.

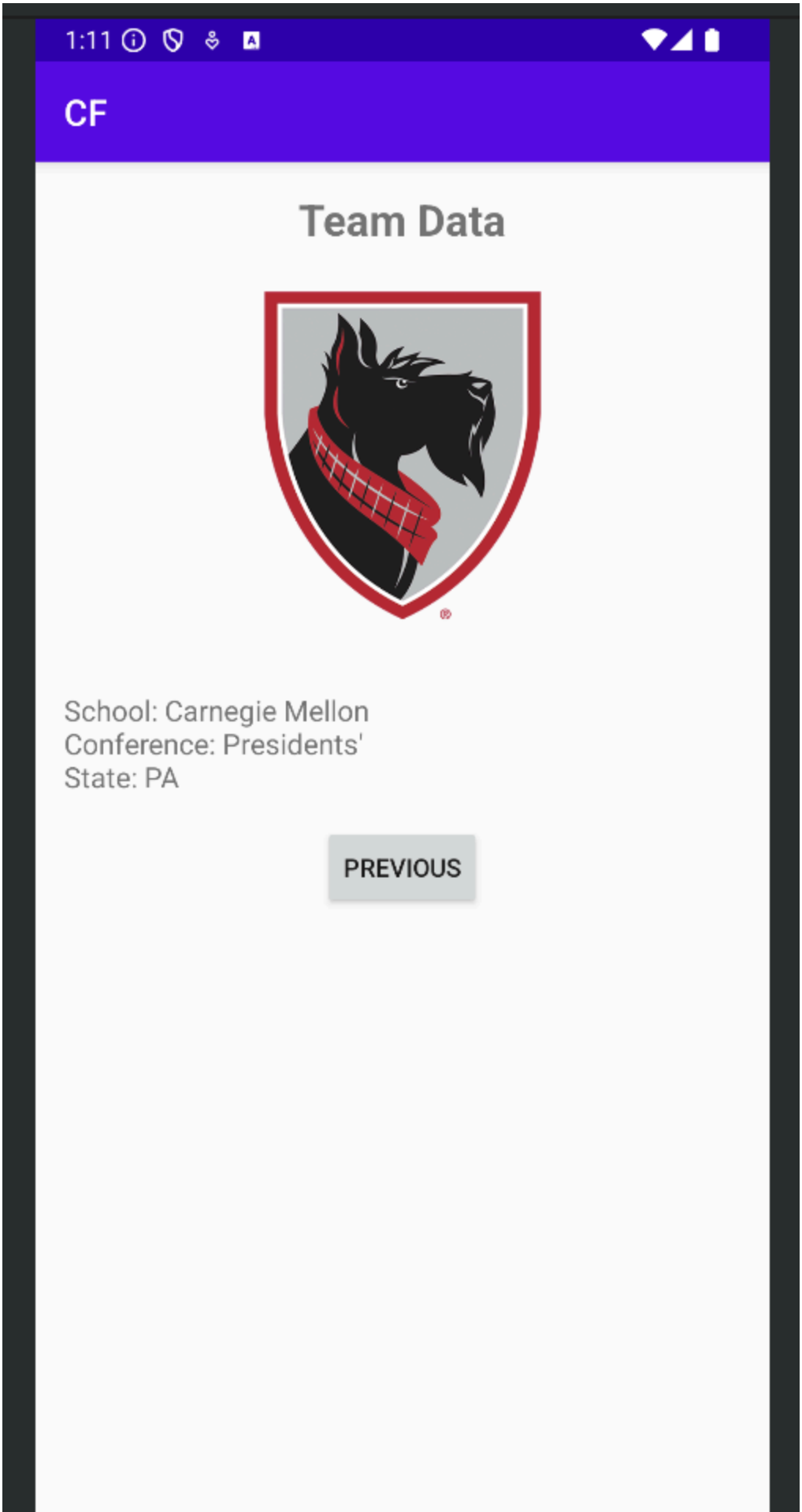
The fetchTeamData method makes this request of my web application, parses the returned JSON to find the team details and the logo URL, fetches the picture, and returns the image of the picture along with team information such as mascot and conference.

d) Receives and parses a JSON formatted reply from the web service.

An example of the JSON reply is:
{"conference":"Northeast
10","color":null,"mascot":"Setters","alt_name1":null,"alt_name2":"PAC","alt_name
3":"Pace","abbreviation":"PAC","classification":"ii","logos":["http://a.espncdn.com/i/
teamlogos/ncaa/500/2487.png","http://a.espncdn.com/i/teamlogos/ncaa/500-dark
/2487.png"],"alt_color":null,"twitter":null,"school":"Pace","location":{"zip":"10570","
elevation":null,"city":"Pleasantville","timezone":null,"latitude":41.1328736,"dome":f
alse,"capacity":1500,"year_constructed":null,"country_code":"US","grass":null,"na
me":"Pace
Stadium","state":"NY","venue_id":6066,"longitude":-73.7926335},"id":2487}

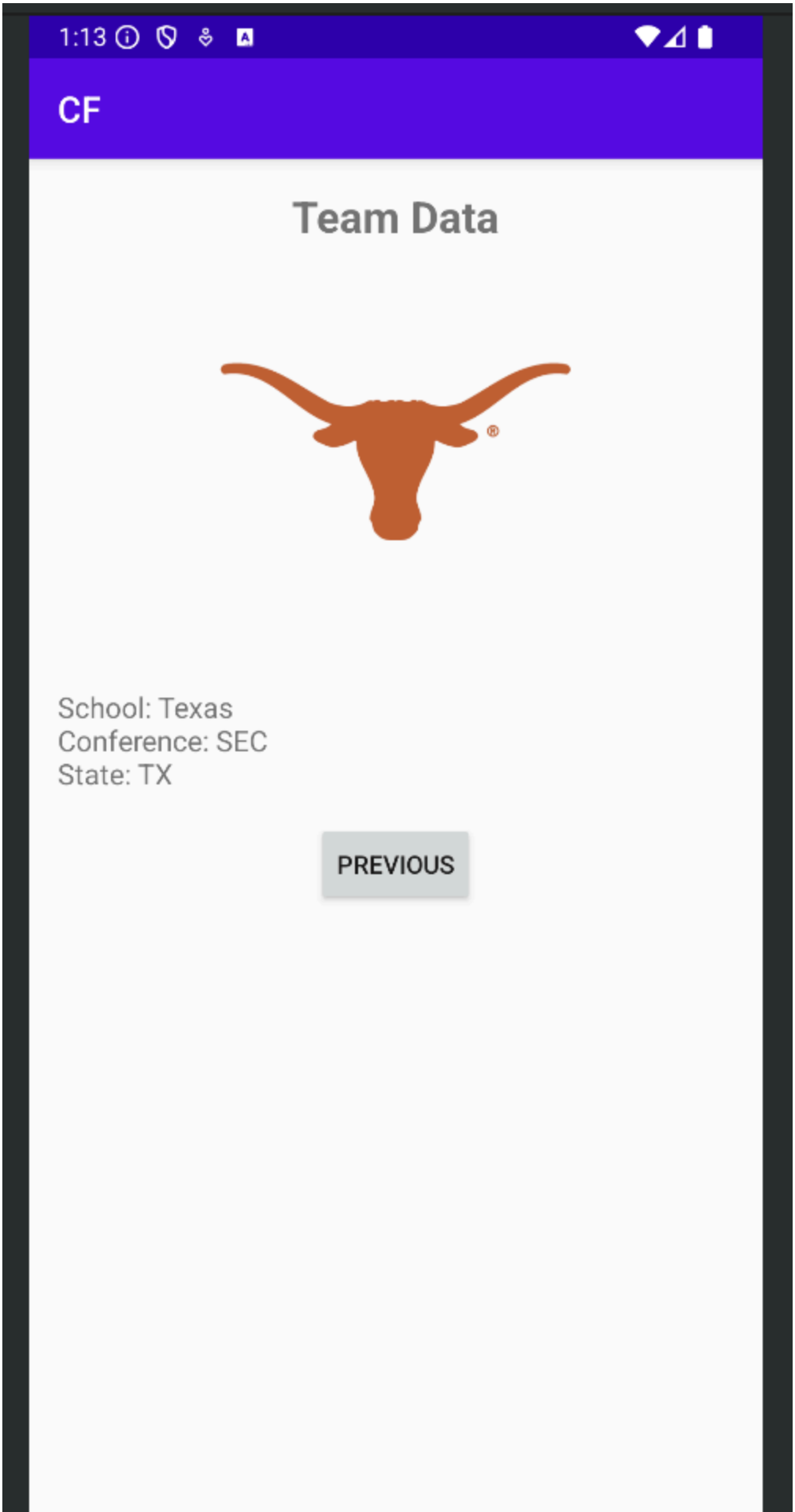
e) Displays new information to the user

Here is the screenshot after the team details and picture has been returned.


1:11
CF
Team Data
School: Carnegie Mellon
Conference: Presidents'
State: PA
PREVIOUS

f) Is repeatable

The user can return to the search page with the previous button on the team details page.


1:13
CF
Team Data
School: Texas
Conference: SEC
State: TX
PREVIOUS

2) Implement a web application, deployed to Codespaces

The URL of my web service deployed to Codespaces is:
https://cuddly-happiness-7g79vj96rv3xj79-8080.app.github.dev

The project directory name is cf.

a) Using an HttpServlet to implement a simple API

   In my web app project:
   CollegeFootballServlet.java

b) Receives an HTTP request from the native Android application
   CollegeFootballServlet.ajava receives the HTTP GET request with the argument “team”.

c) Executes business logic appropriate to your application

   CollegeFootballServlet.java makes an HTTP request to:
   https://api.collegefootballdata.com/teams

   It then parses the JSON response. It then finds the team searched by the user by using a for loop to find the team searched by the user in the Android application.

d) Replies to the Android application with a JSON formatted response

{"conference":"Northeast
10","color":null,"mascot":"Setters","alt_name1":null,"alt_name2":"PAC","alt_name
3":"Pace","abbreviation":"PAC","classification":"ii","logos":["http://a.espncdn.com/i/
teamlogos/ncaa/500/2487.png","http://a.espncdn.com/i/teamlogos/ncaa/500-dark
/2487.png"],"alt_color":null,"twitter":null,"school":"Pace","location":{"zip":"10570","
elevation":null,"city":"Pleasantville","timezone":null,"latitude":41.1328736,"dome":f
alse,"capacity":1500,"year_constructed":null,"country_code":"US","grass":null,"na
me":"Pace
Stadium","state":"NY","venue_id":6066,"longitude":-73.7926335},"id":2487}

3) Handle error conditions - Does not need to be documented

4) Log useful information

The data I log is the Team’s name, state, stadium capacity, timestamp,year the stadium was constructed and classification.

There sere useful because it gives me a lot of information about the teams themselves and their history. I can find out whether only big schools or small schools are being searched by the

stadium capacity. I can figure out if old programs or new programs are being searched for more using the year the stadium was constructed. I can figure out if a schools in specific states are being searched for more. And I have the search's timestamp so I can see when the app is being used the most (during playoff times, in the off season, etc).

5) Store the log information in a database

```
mongodb+srv://mmaltbia:Milesjered2@cluster0.bo93m.mongodb.net/?retryWrites=true
&w=majority&appName=Cluster0
```

6) Display operations analytics and full logs on a web-based dashboard

Operations Dashboard

Log Data

Team	State	Conference	Capacity	Timestamp	Year Constructed	Classificatic
Carnegie Mellon	PA	Presidents'	3500	Invalid Date	N/A	iii

ChatGPT was used in this project