MAP524

Android Project:

International Students

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1. INTRODUCTION

In recent years, there has been a steady increase in the numbers of international students arriving in Canada. These students come from every corner of the earth and now make up a signification portion of the student body in Canada's academic institutions. The Canadian government tracks detailed statistics regarding foreign students, and the collected data is in the public domain, allowing access to everyone. I intend to make an Android app that let the user interactively view the data on international students in Canada in a simple, accessible and visually appealing way.

2. PLATFORM CHOICE

Statistics collected by the Canadian government can be viewed through the Government of Canada Open Data portal. On a desktop computer, this is done by downloading the data (xls, csv, or json format) then open it with a compatible application such as Microsoft Excel. On smartphones, however, the data is directed opened in the browser, resulting in a view that is difficult for human to read (e.g. the rows are wrapped, the columns are not identified). Smartphone users can only get a properly formatted view if they save the data table onto their phone, then open it in a third-party app. This can involve a series of complex operations that serves as a barrier to the casual user. Therefore, I believe a dedicated app is needed to streamline the process and give users an easy access to the data on international students.

3. INTENDED AUDIENCE

This app can used by people in Canada who want to be informed on the current trend of foreign students in Canada. The app can be used as a destination guide for those who wish to enter Canada, as it lists the number of students arriving in each province/territory.

4. KEY FEATURES

- **Selectable list of arriving countries**
  All countries with students arriving in Canada are listed in a scroll view. Selecting a country reveals a detailed view with arrival numbers from that country for each quarter of the years 2013 and 2014.
- **Selectable list of destination provinces/territories**
  All Canadian provinces/territories are listed. Selecting a region reveals a detailed view with arrival numbers to that region for each quarter of the years 2013 and 2014.
- **Split-screen view comparing two countries or two regions**
  The app let user compare two countries or two regions in the same screen. The data listed in this screen would not be as detailed as the single item screen (due to the lack of screen size). However, key data are still presented.
- **Auto-complete search function on the start screen**
  The app let the user search for both origin country and destination region on the start screen.

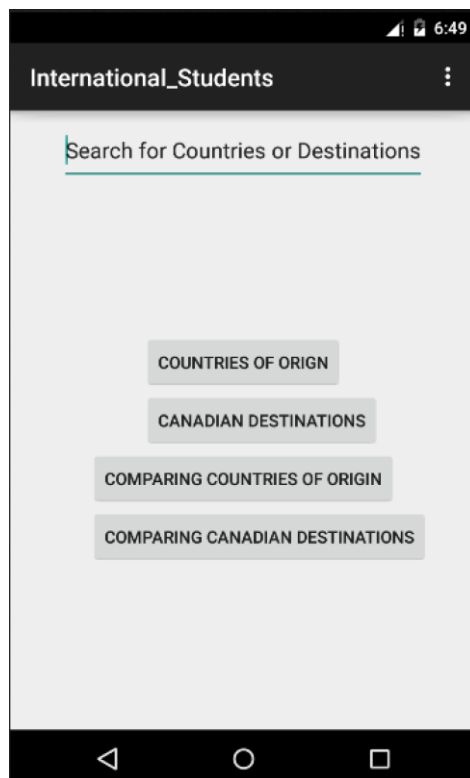- **Additional information and calculated fields in the detailed view**
  In the detailed view for origin countries and destination regions, there are information not found in the original data source, such as the country/region flag, ranking, and percentage change between 2013 and 2014.
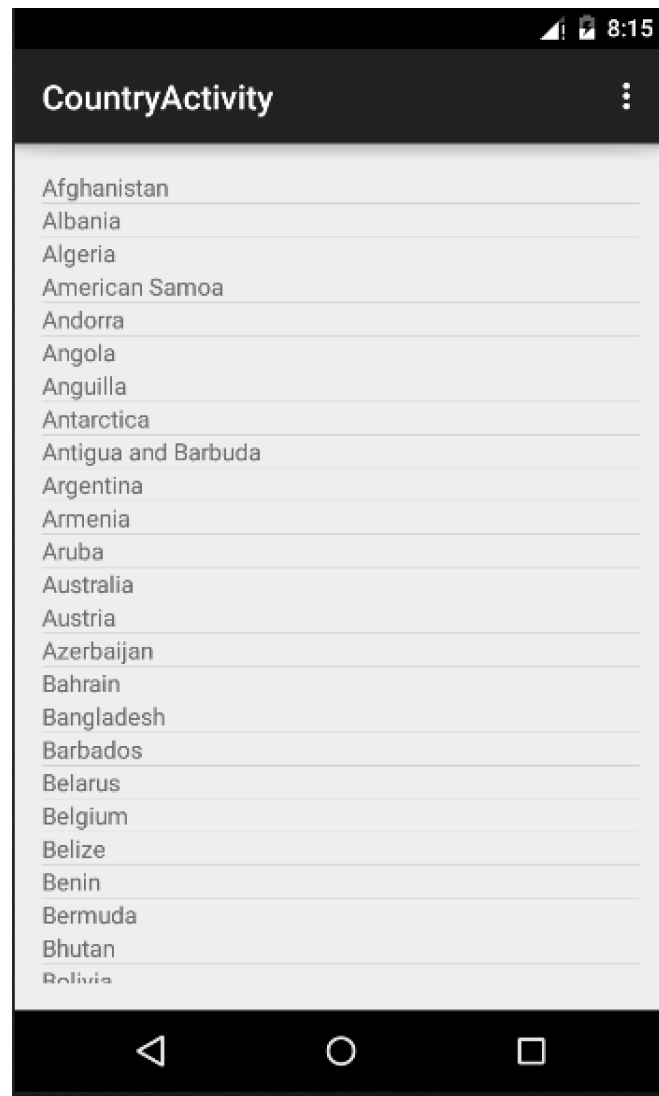- **Graphs generated from data in the detailed view**
  The detailed view also contain graphs generated from data, this gives the user a visual representation of the information.
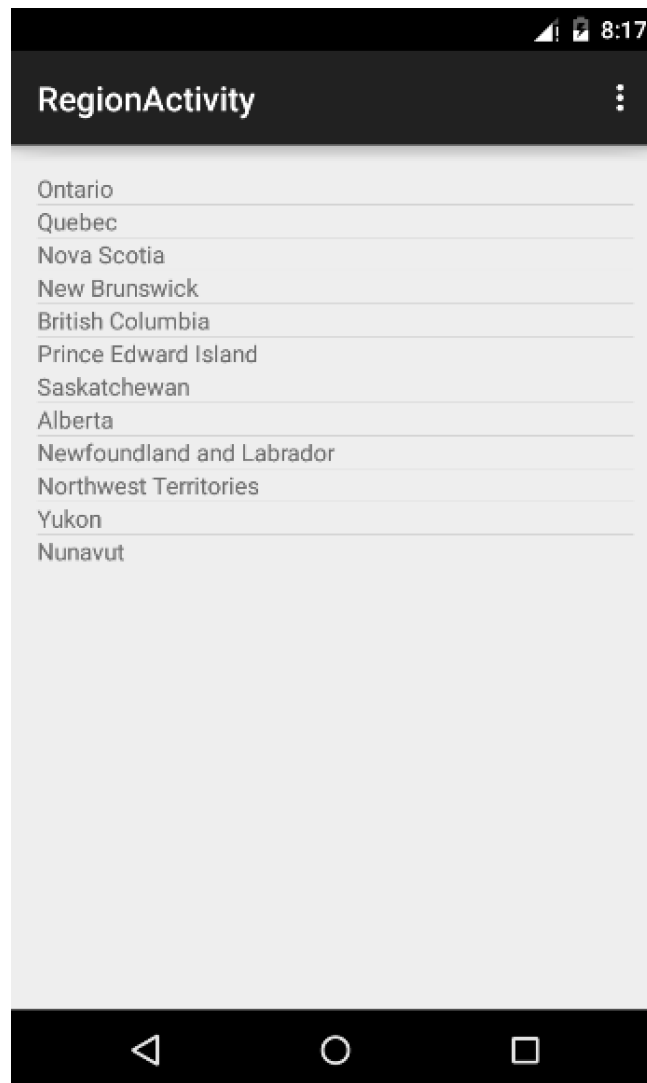
5. MOCKUPS

5.01. Start View
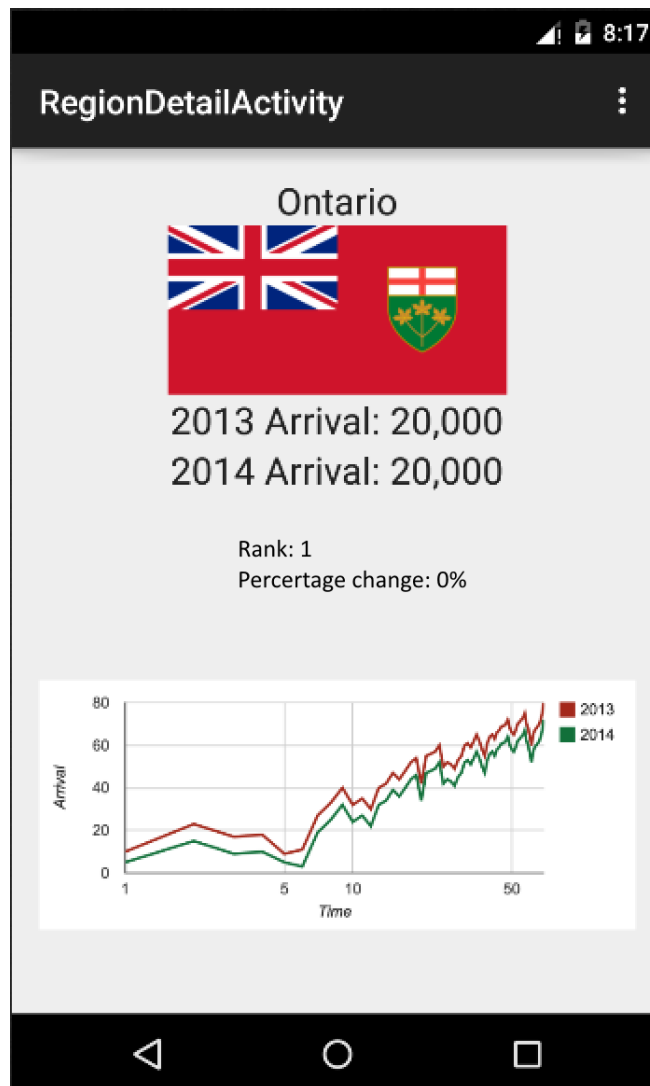
5.02. List View – Countries of Origin
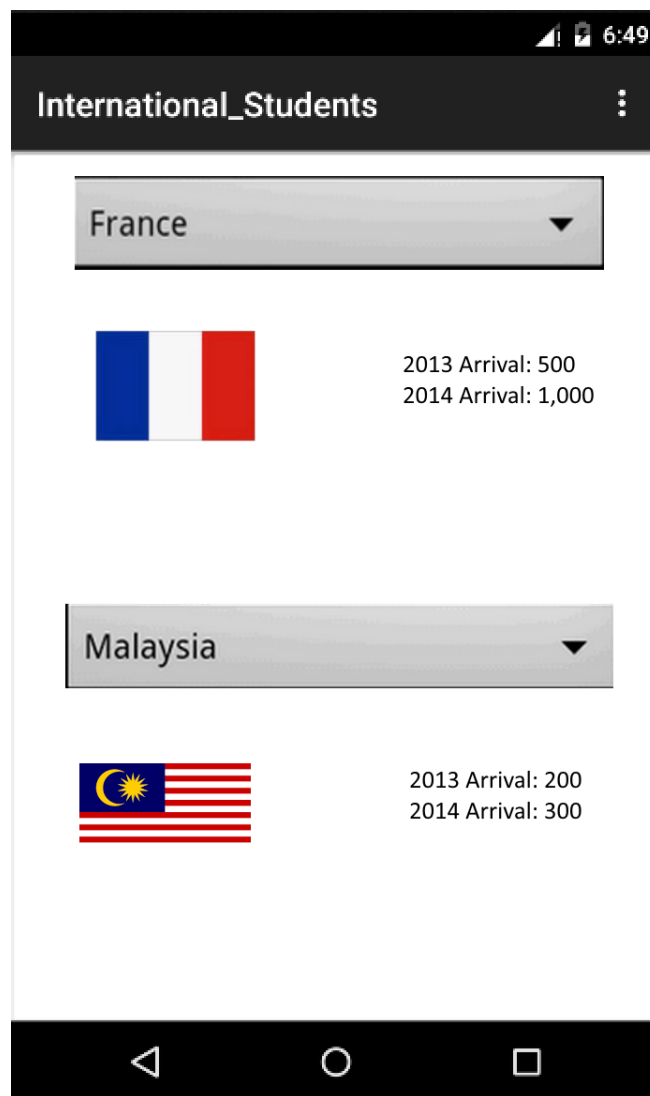
5.03. List View – Destination Regions

5.05. Detailed View – Destination Region

5.06. Comparison View

6. Use Cases

6.01. Search for a specific country of origin

Use Case Name	Search for a specific country of origin
Trigger	User selects the autocomplete search field on the start view.
Precondition	App has been launched and is currently displayed the start view
Basic Path	1) System displays field for entering the search term. 2) User enters the first letters of the search term. 3) System displays a popup list of terms that complete the two letters entered. 4) User selects a term from the popup list. 5) System displays the detailed view of the term (country of origin) the user selected.
Alternative Path	1) System displays field for entering the search term. 2) User enters the first letters of the search term. 3) System displays a popup list of terms that complete the two letters entered. 4) User ignores the popup list and continues to enter rest of the search term. 5) The system displays the only country name matching the search term. 6) User selects the country name. 7) System displays the detailed view of the term (country of origin) the user selected.
Postcondition	The user is in the detailed view of target country.
Exception Paths	If the term entered by user does not match any of the country name, then no term is displayed in the popup list.
Other	

6.02. Scroll and select a country from list

Use Case Name	Scroll and select a country from list
Trigger	User selects "countries of origin" button on the start view.
Precondition	App has been launched and is currently displayed the start view
Basic Path	1) System displays a view with a scrollable list of countries. 2) User scrolls through the list and selects a country.

	3) System displays the detailed view of the term (country of origin) the user selected.
Alternative Path	
Postcondition	The user is in the detailed view of target country.
Exception Paths	
Other	

6.03. Compare two countries of origin

Use Case Name	Compare two countries of origin
Trigger	User selects "Compare countries of origin countries" button on the start view.
Precondition	App has been launched and is currently displayed the start view
Basic Path	1) System displays a view with a two dropdown lists (i.e. spinners). 2) User selects the first dropdown list. 3) System displays a popup list with all available countries. 4) User selects a country from the list. 5) System displays the selected country's data on the top half of the screen. 6) User selects the second dropdown list. 7) System displays a popup list with all available countries. 8) User selects a country from the list. 9) System displays the selected country's data on the bottom half of the screen.
Alternative Path	
Postcondition	The user is viewing data from two countries on the same screen.
Exception Paths	
Other	

6.04. Search for a specific Canadian destination

Use Case Name	Search for a specific Canadian destination
Trigger	User selects the autocomplete search field on the start view.
Precondition	App has been launched and is currently displayed the start view
Basic Path	1) System displays field for entering the search term. 2) User enters the first letters of the search term. 3) System displays a popup list of terms that complete the two letters entered.

	4) User selects a term from the popup list.
	5) System displays the detailed view of the term (Canadian destination) the user selected.
Alternative Path	1) System displays field for entering the search term.
	2) User enters the first letters of the search term.
	3) System displays a popup list of terms that complete the two letters entered.
	4) User ignores the popup list and continues to enter rest of the search term.
	5) The system displays the only country name matching the search term.
	6) User selects the country name.
	7) System displays the detailed view of the term (Canadian destination) the user selected.
Postcondition	The user is in the detailed view of target destination.
Exception Paths	If the term entered by user does not match any of the destination name, then no term is displayed in the popup list.
Other	

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6.05. Scroll and select a destination from list

Use Case Name	Scroll and select a destination from list
Trigger	User selects "Canadian Destinations" button on the start view.
Precondition	App has been launched and is currently displayed the start view
Basic Path	1) System displays a view with a scrollable list of destinations.
	2) User scrolls through the list and selects a region.
	3) System displays the detailed view of the term (destination region) the user selected.
Alternative Path	
Postcondition	The user is in the detailed view of target destination.
Exception Paths	
Other	

6.03. Compare two Canadian destinations

Use Case Name	Compare two Canadian destinations
Trigger	User selects "Compare Canadian destinations" button on the start view.
Precondition	App has been launched and is currently displayed the start view
Basic Path	1) System displays a view with a two dropdown lists (i.e. spinners). 2) User selects the first dropdown list. 3) System displays a popup list with all available destinations. 4) User selects a destination from the list. 5) System displays the selected destination's data on the top half of the screen. 6) User selects the second dropdown list. 7) System displays a popup list with all available destinations. 8) User selects a destination from the list. 9) System displays the selected destination's data on the bottom half of the screen.
Alternative Path	
Postcondition	The user is viewing data from two destinations on the same screen.
Exception Paths	
Other	