

2021

CAB230 Assignment 1 Client Side



H A P P I N E S S

happiness data app!

welcome to happiness data app!

- check your county happiness data
- easy to search what you are looking for
- what factors consist of happiness

CAB230

Happiness API – Client Side
Application

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5/10/2021

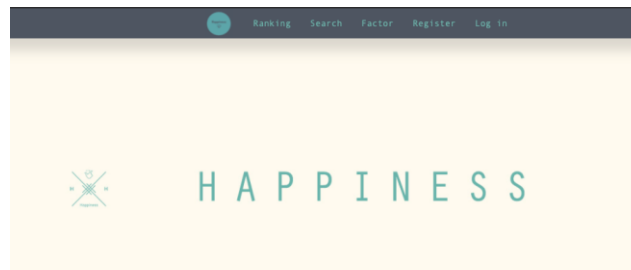
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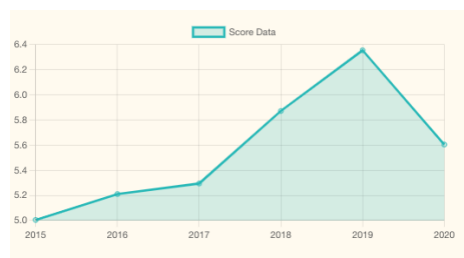
Introduction

Purpose & description

With the enhancing technical industry and life standard of the world, people are getting focus on a “happiness”. Happiness is not only feeling, but also makes people be more productively and healthier (happiness, 2019, para. 1). Happiness is consisting various factors such as health, relationship, and economy, therefore, this application is developed to know what things are made happiness up. Moreover, this application shows which country is the happiest and what factors of it.



This application has a wonderful navigation bar which is changed depends on the user’s status such as login. In this application, there are used several modules for making it more efficient. chart.js is used for graphs are organized well for user sight. React-select and bootstrap modules are used in this app for looking gorgeous.



Completeness and Limitations

Completeness:

- This application works toggle navigation and toggle graphs well.
- When the function works, it leads the users to another page which they are going to be the next step such as from registering to log in. It makes users do not click unnecessarily.

Limitation:

- On the search page, when users write a country name in the input box if the select box already has been selected, the select box does not initialize.

Use of End Points

/rankings

The first screenshot shows the web application at `localhost:3000/rankings`. The page title is "Happiness data ranking" with a count of 935. A dropdown menu shows "Year" with a downward arrow. Below the dropdown is a table with 10 rows of data:

Rank	Country	Score
1	Finland	7.889
2	Denmark	7.646
3	Switzerland	7.568
4	Iceland	7.584
5	Norway	7.488
6	Netherlands	7.449
7	Sweden	7.353
8	New Zealand	7.388
9	Austria	7.294
10	Luxembourg	7.238

The second screenshot shows the web application at `localhost:3000/rankings` with the year changed to 2018. The page title is "Happiness data ranking" with a count of 155. A dropdown menu shows "2017" with a downward arrow. Below the dropdown is a table with 10 rows of data:

Rank	Country	Score
1	Norway	7.537
2	Denmark	7.522
3	Iceland	7.584
4	Switzerland	7.494
5	Finland	7.469
6	Netherlands	7.377
7	Canada	7.316
8	New Zealand	7.314
9	Sweden	7.284
10	Australia	7.284

In this endpoint (`/rankings`) users can check all happiness rankings. On this page, ranking API is used for year and table. Years can be changed depends on the data, so years are brought from ranking API.

/countries

localhost:3000/search

Ranking Search Factor Register Log in

Happiness Search data 6

Albania Year Country

Rank	Country	Score	Year
105	Albania	4.883	2020
107	Albania	4.719	2019
112	Albania	4.586	2018
109	Albania	4.644	2017
109	Albania	4.655	2016
95	Albania	4.959	2015

1 to 6 of 6 < < < Page 1 of 1 > > >

Score Data

2015 2016 2017 2018 2019 2020

Network

Request URL: http://131.181.198.87:3000/rankings?country=Albania

Request Method: GET

Status Code: 200 OK

Remote Address: 131.181.198.87:3000

Referrer Policy: strict-origin-when-cross-origin

Response Headers

Access-Control-Allow-Origin: *

Content-Length: 366

Content-Type: application/json; charset=utf-8

Date: Sun, 09 May 2021 15:45:24 GMT

ETag: W/"16e-eyKiWzcu8gHq39sDj)tUavzv34"

X-Powered-By: Express

Request Headers

Accept: */*

Accept-Encoding: gzip, deflate

Accept-Language: en-GB,en-US;q=0.9,en;q=0.8

Connection: keep-alive

Host: 131.181.198.87:3000

If-None-Match: W/"16e-eyKiWzcu8gHq39sDj)tUavzv34"

Origin: http://localhost:3000

Referer: http://localhost:3000/

User-Agent: Mozilla/5.0 (Macintosh; Intel Mac OS X 10_15_7) AppleWebKit/537.36

Query String Parameters

country: Albania

localhost:3000/search

Ranking Search Factor Register Log in

Happiness Search data 1

Albania 2018 Country

Rank	Country	Score	Year
112	Albania	4.586	2018

1 to 1 of 1 < < < Page 1 of 1 > > >

Network

Request URL: http://131.181.198.87:3000/rankings?country=Albania&year=2018

Request Method: GET

Status Code: 200 OK

Remote Address: 131.181.198.87:3000

Referrer Policy: strict-origin-when-cross-origin

Response Headers

Access-Control-Allow-Origin: *

Connection: keep-alive

Content-Length: 62

Content-Type: application/json; charset=utf-8

Date: Sun, 09 May 2021 15:45:48 GMT

ETag: W/"3e-3a0B-hd0v7X405o7+C7dsTTeuU"

X-Powered-By: Express

Request Headers

Happiness Search data 6

Country: Year: au

Rank	Country	Score	Year
12	Australia	7.223	2020
11	Australia	7.228	2019
10	Australia	7.272	2018
10	Australia	7.284	2017
9	Australia	7.313	2016
10	Australia	7.284	2015

1 to 6 of 6 < > Page 1 of 1 >

This search page has shown happiness data depends on the **country**, or country and year. Ranking and Country APIs are used on the search page for showing country, year, and table.

/factor

Happiness Factor data 157

2016 Country: Limit:

Rank	Country	Score	Economy	Family	Health	Freedom	Generosity	Trust
1	Denmark	7.526	1.442	1.164	0.795	0.579	0.362	0.445
2	Switzerl...	7.509	1.527	1.145	0.863	0.586	0.281	0.412
3	Iceland	7.501	1.427	1.183	0.867	0.566	0.477	0.150
4	Norway	7.498	1.577	1.127	0.796	0.596	0.379	0.358
5	Finland	7.413	1.406	1.135	0.811	0.571	0.255	0.410
6	Canada	7.404	1.440	1.096	0.828	0.574	0.448	0.313
7	Netherla...	7.339	1.465	1.029	0.812	0.552	0.474	0.299
8	New Zea...	7.334	1.361	1.173	0.831	0.581	0.494	0.419
9	Australia	7.313	1.444	1.105	0.851	0.568	0.474	0.323
10	Sweden	7.291	1.452	1.088	0.831	0.582	0.383	0.409

1 to 10 of 157 < > Page 1 of 16 >

Economy Family Health Freedom

Happiness Factor data 1

2016 Algeria Limit

Rank	Country	Score	Economy	Family	Health	Freedom	Generosity	Trust
38	Algeria	6.355	1.053	0.833	0.618	0.210	0.070	0.162

Economy Family Health Freedom

Happiness Factor data 30

2016 All 30

Rank	Country	Score	Economy	Family	Health	Freedom	Generosity	Trust
1	Denmark	7.526	1.442	1.164	0.795	0.579	0.362	0.445
2	Switzerl...	7.509	1.527	1.145	0.863	0.586	0.281	0.412
3	Iceland	7.501	1.427	1.183	0.867	0.566	0.477	0.150
4	Norway	7.498	1.577	1.127	0.796	0.596	0.379	0.358
5	Finland	7.413	1.406	1.135	0.811	0.571	0.255	0.410
6	Canada	7.404	1.440	1.096	0.828	0.574	0.448	0.313
7	Netherla...	7.339	1.465	1.029	0.812	0.552	0.474	0.299
8	New Zea...	7.334	1.361	1.173	0.831	0.581	0.494	0.419
9	Australia	7.313	1.444	1.105	0.851	0.568	0.474	0.323
10	Sweden	7.291	1.452	1.088	0.831	0.582	0.383	0.409

1 to 10 of 30 Page 1 of 3

Network Tab: Request URL: http://131.181.198.87:3000/factors/2016?limit=30, Request Method: OPTIONS, Status Code: 204 No Content, Remote Address: 131.181.198.87:3000, Referrer Policy: strict-origin-when-cross-origin, Response Headers: Access-Control-Allow-Headers: authorization, content-type, Access-Control-Allow-Methods: GET, HEAD, PUT, PATCH, POST, DELETE, Access-Control-Allow-Origin: *, Connection: keep-alive, Content-Length: 0, Date: Sun, 09 May 2021 16:19:04 GMT, Vary: Access-Control-Request-Headers, X-Powered-By: Express

Users cannot reach the factor page if they did not log in to this application. On this page Ranking and Country APIs are used to show year, country, and table same as the search endpoint.

/register

Register

happiness@happpppyyy.com

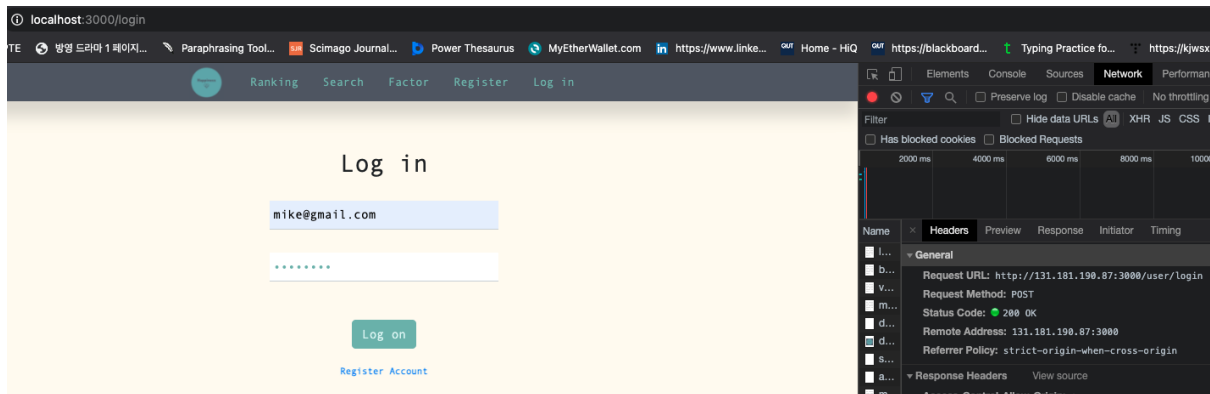
Register

Do you have an account already?

Network Tab: Request URL: http://131.181.198.87:3000/user/register, Request Method: POST, Status Code: 201 Created, Remote Address: 131.181.198.87:3000, Referrer Policy: strict-origin-when-cross-origin, Response Headers: Access-Control-Allow-Origin: *, Connection: keep-alive, Content-Length: 26

On this page, Register API is used for creating an account. This API is POST because this API has a purpose for delivering information from the front.

/user/login



Log in API checks authorization of the user information. If they are a proper person who has an account, it allows them to log in.

Modules Used

Ag-grid-react

This module is for a fully functioned table, including GUI, sorting, and filtering.

Install: `$npm install @ag-grid-community/all-modules`

<https://www.ag-grid.com/react-grid/>

react-select

This module for looking good select box and autocompleting function.

Install: `$npm install react-select`

<https://react-select.com/home>

React Bootstrap

A bootstrap module can make CSS quickly and easily. It is also easy to customize.

Install: `$npm install bootstrap`

<https://getbootstrap.com/>

react-chartjs

This module supports various charts like bar and line charts.

Install: `$npm install --save react-chartjs-2 chart.js`

<https://www.chartjs.org/>

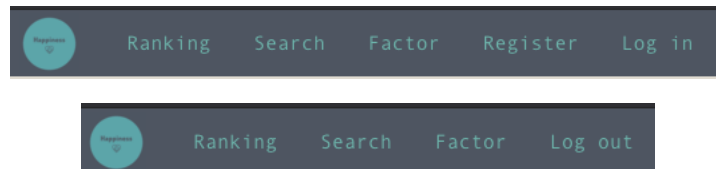
Application Design

Navigation and Layout

· Navigation

Well-made navigation is that “clear and intuitive labels”, “minimum number of clicks to arrive at the destination”, and “Be consistent through the site” (Hogan, J., 2021, p. 14).

First, this navigation is named clearly what they want to say and point to user even user access the application first time. User can recognise all the functions with few clicks.



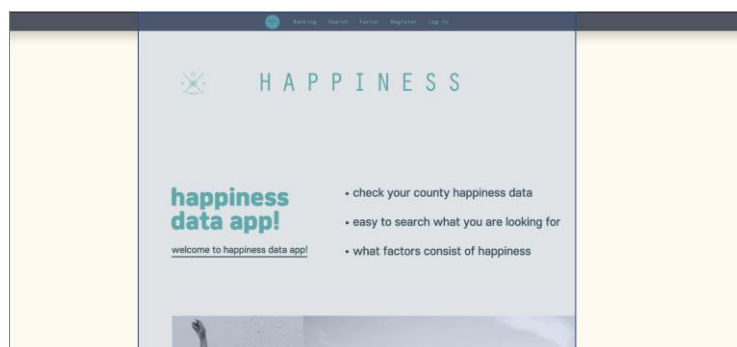
Secondly, this application is made that user can reach where they want without many clicks. Because, when user click factor without login then it goes to login page directly, also, if user try to login without their account, then user do not need to move mouse to up for click to register. They can click bottom of the log on button.



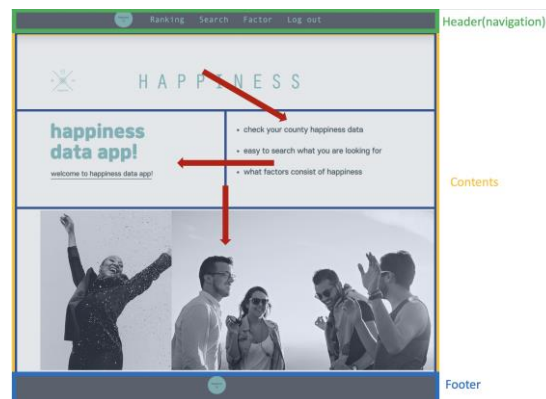
Finally, this navigation is global navigation. Therefore, user does not have to go back to access other page. It will make the user comfortable to access everywhere in this application.

Layout

This layout is a full-width layout. However, when contents are distributed, users' perspectives are distributed, and their concentration is likely to be disrupted. Therefore, the max-width of the content is fixed so that the user's attention is not distributed evenly on a wide screen.



This application consists of a header (navigation), content, and footer. Navigation is globally fixed at the top so that users can access all the pages. The content consists of a total of four blocks, providing flow for users to see. Finally, the footer contains brief information about this application, which is set to route back to the main page when the image is clicked in the footer.



Usability and Quality of Design

• Content

According to web design and react component (Hogan, J., 2021, p. 5), the efficient contents include factors that are “fresh and interesting” and “not just copy & paste onto a server” and “have a voice”.

First, this yellowish colour makes the attention to the users’ sight. Yellow usually means notice or warning. But this application has been avoided with warning meaning. it is made whiter than yellow. Therefore, this is a more friendly and attentional background instead of an alert.

Secondly, this main page is made by me who has been learning CAB230. Therefore, this main page is unique and is not to copy and paste onto a server.

Finally, there are 3 sentences on the main page which are started check, easy. Those are obviously not passive voices. Therefore, those sentences make power and trustable this application.

Accessibility

Each checkpoint has a priority level assigned by the Working Group based on the checkpoint's impact on accessibility.

[Priority 1]

A Web content developer **must** satisfy this checkpoint. Otherwise, one or more groups will find it impossible to access information in the document. Satisfying this checkpoint is a basic requirement for some groups to be able to use Web documents.

Priority 1 checkpoints

In General (Priority 1)	Yes	No	N/A
1.1 Provide a text equivalent for every non-text element (e.g., via "alt", "longdesc", or in element content). <i>This includes:</i> images, graphical representations of text (including symbols), image map regions, animations (e.g., animated GIFs), applets and programmatic objects, ascii art, frames, scripts, images used as list bullets, spacers, graphical buttons, sounds (played with or without user interaction), stand-alone audio files, audio tracks of video, and video.			V
2.1 Ensure that all information conveyed with color is also available without color, for example from context or markup.	V		
4.1 Clearly identify changes in the natural language of a document's text and any text equivalents (e.g., captions).			V
6.1 Organize documents so they may be read without style sheets. For example, when an HTML document is rendered without associated style sheets, it must still be possible to read the document.	V		
6.2 Ensure that equivalents for dynamic content are updated when the dynamic content changes.	V		
7.1 Until user agents allow users to control flickering, avoid causing the screen to flicker.	V		
14.1 Use the clearest and simplest language appropriate for a site's content.	V		
And if you use images and image maps (Priority 1)	Yes	No	N/A
1.2 Provide redundant text links for each active region of a server-side image map.	V		
9.1 Provide client-side image maps instead of server-side image maps except where the regions cannot be defined with an available geometric shape.	V		
And if you use tables (Priority 1)	Yes	No	N/A
5.1 For data tables, identify row and column headers.	V		

5.2 For data tables that have two or more logical levels of row or column headers, use markup to associate data cells and header cells.			V
And if you use frames (Priority 1)	Yes	No	N/A
12.1 Title each frame to facilitate frame identification and navigation.	V		
And if you use applets and scripts (Priority 1)	Yes	No	N/A
6.3 Ensure that pages are usable when scripts, applets, or other programmatic objects are turned off or not supported. If this is not possible, provide equivalent information on an alternative accessible page.			V
And if you use multimedia (Priority 1)	Yes	No	N/A
1.3 Until user agents can automatically read aloud the text equivalent of a visual track, provide an auditory description of the important information of the visual track of a multimedia presentation.		V	
1.4 For any time-based multimedia presentation (e.g., a movie or animation), synchronize equivalent alternatives (e.g., captions or auditory descriptions of the visual track) with the presentation.	V		
And if all else fails (Priority 1)	Yes	No	N/A
11.4 If, after best efforts, you cannot create an accessible page, provide a link to an alternative page that uses W3C technologies, is accessible, has equivalent information (or functionality), and is updated as often as the inaccessible (original) page.			V

Technical Description

Architecture


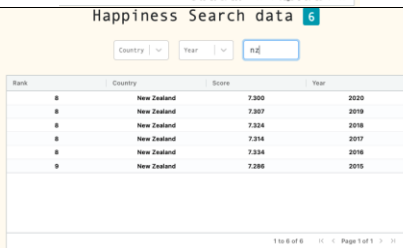
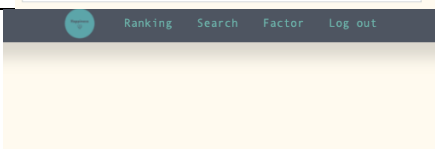
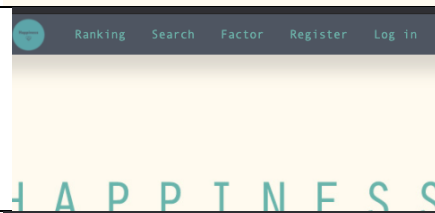
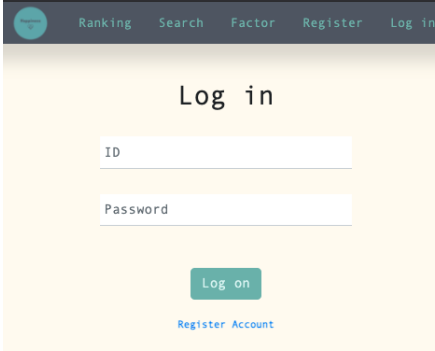
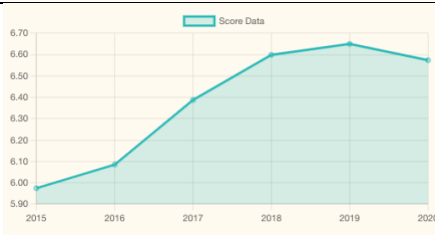
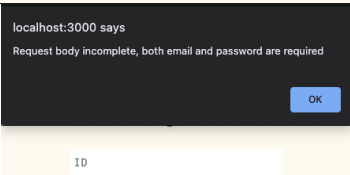


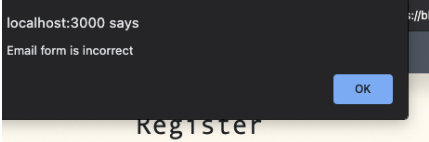
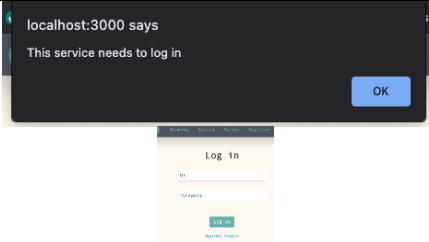
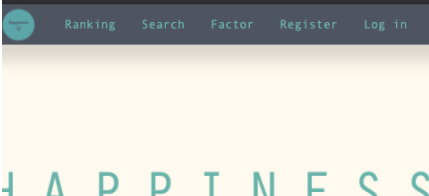
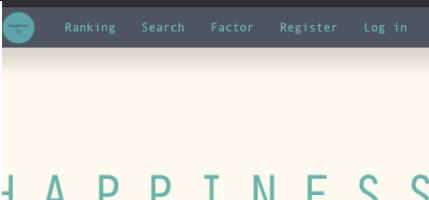
src has folders such as assets, components, and pages. Assets are global assets of developers that can be used again for other projects or developments at any time later. There are CSS, img, and JSON folders in the assets.

components is folder containing files that classify features separately. The functionality within this folder is intended to reduce the complexity of code and re-use it.

Finally, the pages folder contains the main js files that make up each page.

Test plan

Cases	Task	Expected Outcome	Result	Screenshot
Positive case	Select year	Change data on the table	pass	
	Search year	Change data on the table	pass	
	Login successfully	Redirect main Change navigation bar	pass	
	Logout	Redirect main Change navigation bar	pass	
	Register	Redirect login page	pass	
	Select year	Show chart	pass	
Negative case	Login failed	Show alert error message	pass	

	Register failed	Show alert error message	pass	
	Access factor page failed	Show alert error message Redirect login page	pass	
Edge case	Access factor page without login	Redirect main page	pass	
	Access login/register (user state is logging in)	Redirect main page	pass	

Difficulties / Exclusions / unresolved & persistent errors /

Difficulties

- It took the longest time to set all the functions one by one when coding directly to reduce the use of the library as much as possible.
- In addition, it was difficult to handle data because it was wanted to use data from APIs that were as reliable as possible.
- If there had been more time, the completion of the CSS could have been improved.
- Handling response errors during Patch and setting up the router when taking a path other than the specified one.

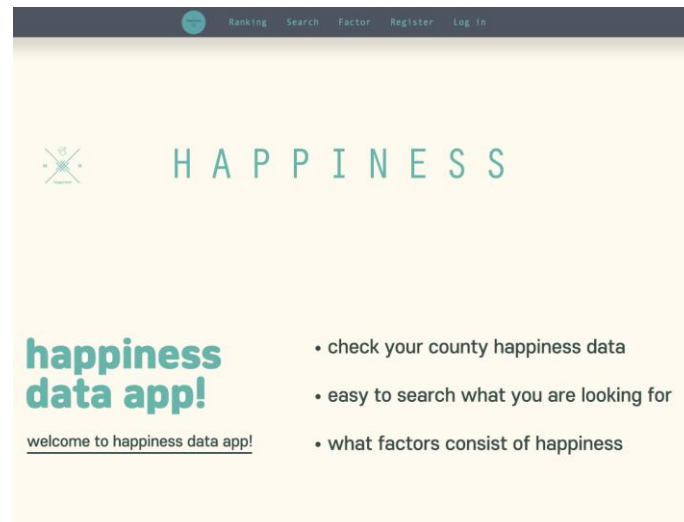
Extensions (Optional)

If it is added boards and surveys to this app, it will be able to get feedback from users, and furthermore, it will be able to create a group of people who pursue happiness through the board. It can create a 1:1 or 1:n chat system that identifies (because it can be dangerous) to prevent indiscriminate encounters.

User guide

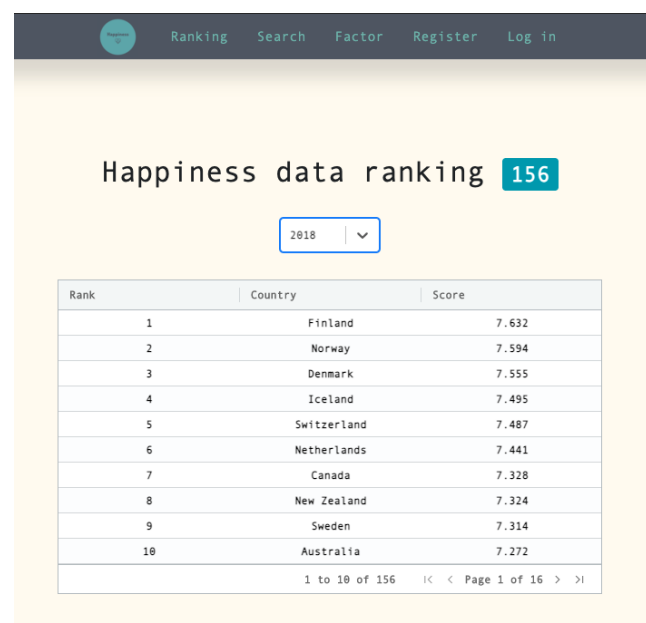
1. Main page

When use access this application, user can see the main page like below screenshot



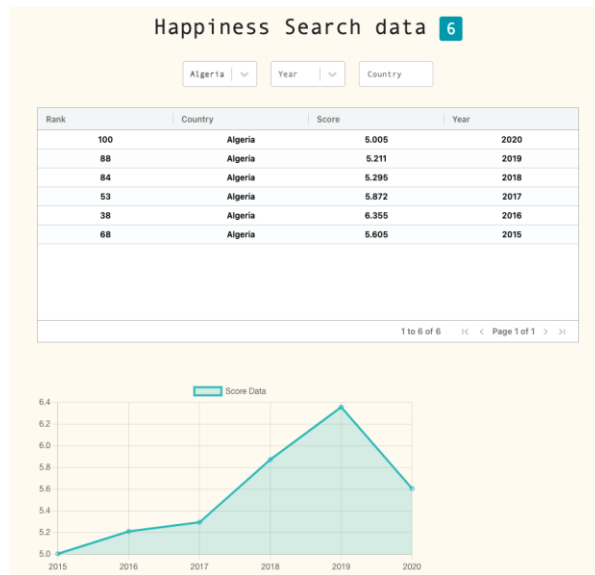
2. Ranking

Users does not need to login to see the ranking. When users access to the ranking page. It shows directly ranking of happiness data. And users can choose year which they want to check information in specific year.

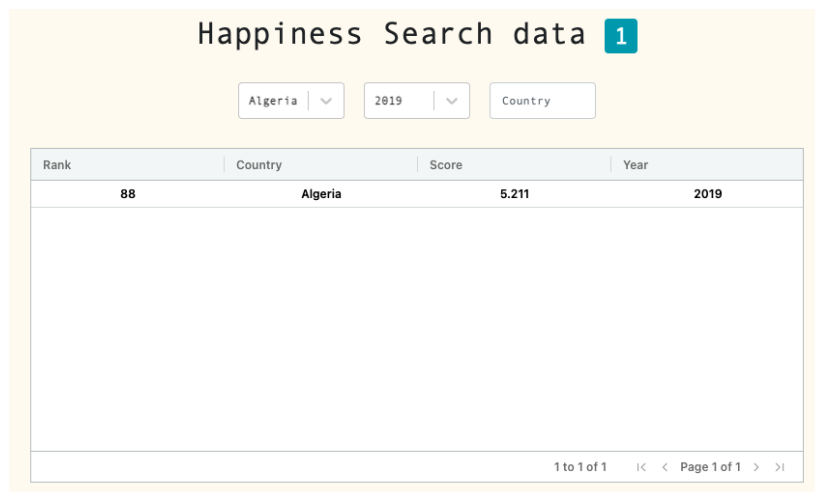


2. Search

Search page also does not require to login. In the search page, there are 3 option which are country selection, year selection, and country input box. When users choose country then a line chart will be shows about the score.



Users can choose year, then they can check rank, country and score in specific year.

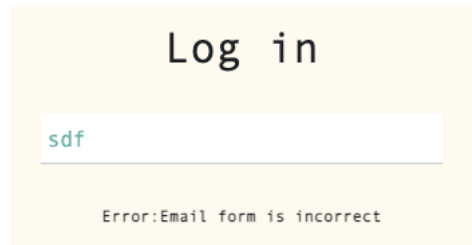


Sometimes, users feel to bother finding country name in select box. Then users can search in select box. Otherwise, they can search country through input box with country name or country code.



3. Login

For using factor page, users need to login this application. If they do not follow the email form, the error shows up. When their email or password are not correct, or email or password are not written, then alert error pops up.

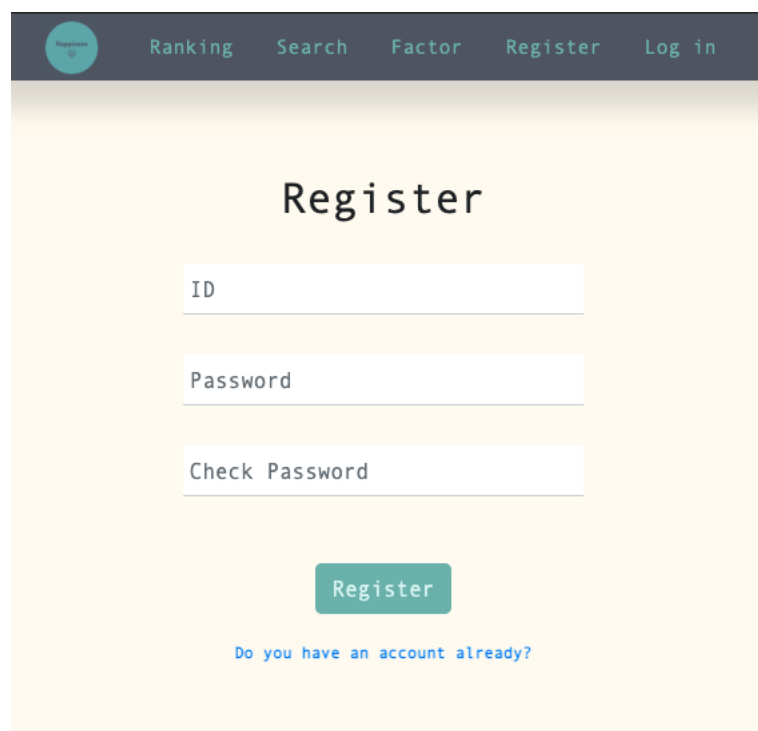


The screenshot shows a login form with the title "Log in". Below the title is a text input field containing the text "sdf". Underneath the input field, the error message "Error:Email form is incorrect" is displayed in a small, grey font.

When users login successfully, this page redirect to main.

4. Register

If users do not have account, they can create in the register page. In register page, there are 3 input box for email, password, and checking password. When users create account, ID should be email, and password and checking password should be same. If users create account successfully, it goes to login page directly.

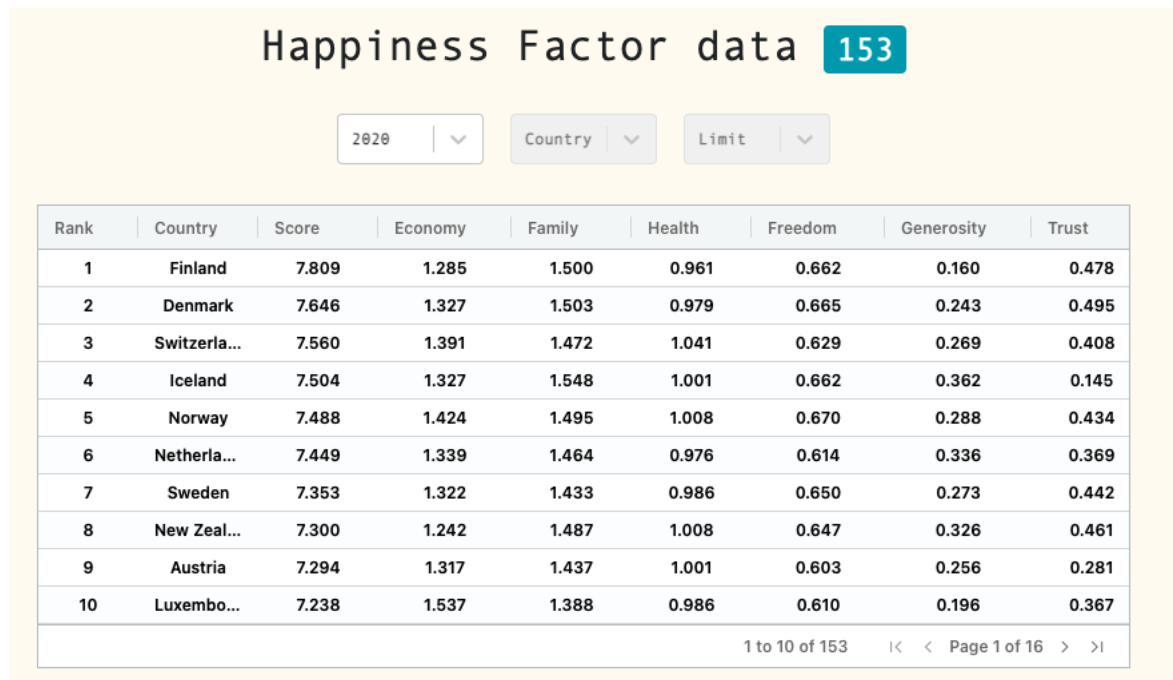


The screenshot shows the "Register" page. At the top, there is a dark navigation bar with links: "Ranking", "Search", "Factor", "Register", and "Log in". The "Register" link is highlighted. Below the navigation bar, the title "Register" is centered. Underneath the title, there are three input fields: "ID", "Password", and "Check Password". Below these fields is a green "Register" button. At the bottom, there is a link that says "Do you have an account already?" in blue text.

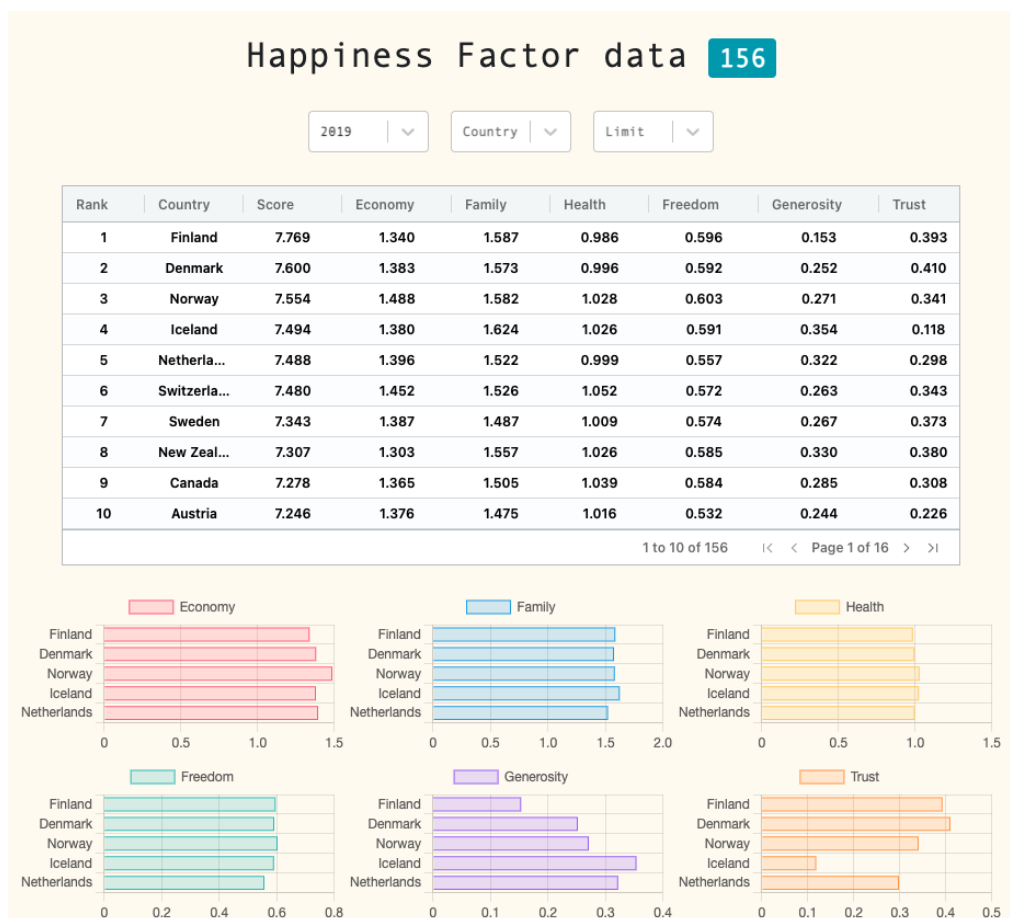
5. Factor

If users want to reach the factor page. They have to login. If their statement are logged in then they can access factor page without concern, otherwise, the page will be redirected to login page.

The factor data default is 2020. If they want to see chart and choose country and limit. They have to select year.



Charts always show 5 rankings. And user can choose year, country, and limit.



References

Happiness: Why Does Happiness Matter? (2019, January 9). Retrieved from <https://happinesssummit.world/index.php/2019/01/09/why-does-happiness-matter/>

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Blackboard. https://blackboard.qut.edu.au/bbcswebdav/pid-9197644-dt-content-rid-37842998_1/courses/CAB230_21se1/WD-1.1-Principles1-3%281%29.pdf