Design document

Project summary:

The purpose of my application is providing some images about cosmos and astronomy. And users can learn some details about astronomy and rockets stuffs. Besides, users can do some quiz about astronomy and rockets. Make people be interested in astronomy and rockets! Features I plan to include: (Search: if you are using the NASA API, you could allow the user to search for the astronomy picture in a specific date. Details: if you are using the SpaceX Shows API, you could allow the user to view details about a specific core, such as if it is reused, if it is a successful landing, what is the landing type about it etc. Data export: if using a NASA API, students could allow users to export picture of astronomy in PDF. Gallery: if you are using the NASA API, you could allow the user to view a gallery of Mars images which are taken by specific camera. Quiz: if using a SpaceX API, students could create a quiz that tests users' knowledge of SpaceX.)

Description of REST API:

REST API: APOD

URL: https://api.nasa.gov/planetary/apod

Documentation: https://github.com/nasa/apod-api

Description: I will fetch data about planet picture from the nasa apod REST API. I will use the data to display pictures about planets in the specific day.

Endpoints:

* /planetary/apod/ start_date=2017-07-08&end_date=2017-07-10 – get the astronomy picture from 2017-07-08 to 2017-07-10

REST API: **Mars Rover Photos**

URL: https://api.nasa.gov/mars-photos/

Documentation: https://github.com/corincerami/mars-photo-api

Description: I will fetch data about mars photo from the **Mars Rover Photos** REST API. I will display the photos in galleries categoried by different cameras.

Endpoints:

* sol=1000&camera=fhaz – get the photos taken by camera fhaz
* earth_date=2015-6-3&camera=pancam – get the photos taken by camera pancam

REST API: **Get all rockets**

URL: https://api.spacexdata.com/v4/rockets

Documentation: https://github.com/r-spacex/SpaceX-API/blob/master/docs/rockets/v4/all.md

Description: I will fetch data about rockets from the Get all rockets REST API. I will use the data to display information about rockets, including the name, the height, the mass, and the image.

Endpoints:

* `/rockets/:id `– get a single rocket information
* /rockets/ ` - get all rockets information

List of features:

Feature: Search for astronomy picture

Description: Users can search for astronomy by specific date. The search results will appear the picture in specific date.

Model (data class): `AstronomyPicture `

REST API endpoint: `/search/planetary/apod `

Pages: `search_page`

Feature: details for rockets in SpaceX

Description: Users can find details about rockets in Spa ceX. The detail results will include like the height, the mass, the name and the picture of the rockets.

Model (data class): `Rocket `

REST API endpoint: `/detail/rockets `

Pages: `detail_page`

Feature: data export for astronomy pictures

Description: Users can export the astronomy picture in the specific day.

Model (data class): ` AstronomyPicture `

REST API endpoint: `/search/planetary/apod `

Pages: `search_page`

Feature: gallery for Mars photos

Description: Users can see the gallery of the Mars photos

Model (data class): ` MarsPhotos`

REST API endpoint: `/gallery/mars_photos/api/v1/rovers/curiosity/photo `

Pages: `gallery_page`

Feature: quiz for rockets in SpaceX

Description: Users can do some quiz about rockets in Spacex to get new knowledge

Model (data class): ` Rocket `

REST API endpoint: `/detail/rockets `

Pages: `quiz_page`

Reference:

1: https://northeastern.instructure.com/courses/156822/pages/tutorial-mocking-rest-api-calls?module_item_id=9667274

2: https://northeastern.instructure.com/courses/156822/pages/tutorial-passing-data-between-pages?module_item_id=9665380