Risa Sakatoku, [Jose Ornelas](mailto:jornelas0960@sdsu.edu)

Professor [Jacob Doiron](mailto:jdoiron@sdsu.edu)

MIS 315: Final Project

December 15th, 2022

NASA SPACE EXPLORE

The project uses The National Aeronautics and Space Administration (NASA) Open APIs to provide the information and image of the specific date a user inputs, the real-time ISS location on the world map, and who is on board as an output text file. The purpose of this project is to educate and give information about space and the International Space Station (ISS) by using images for the users, which will attract more people and help enhance their knowledge and curiosity. Our program updates the ISS location every five seconds because it orbits Earth approximately every 90 minutes, which orbits Earth 16 times a day, so they will obtain the location information and assume the time the ISS is above their area or look for a chance to see it in the sky. Furthermore, knowing what happens on the date a user chooses, an explanation and photo taken by NASA inspire the user's curiosity about outer space. Therefore, our project helps to spark the person’s interest and imagination to learn about space and new frontiers and discover new knowledge, which leads to becoming increasingly involved in the sciences.

The guideline of this program:

At first, the information message box lets the user know that the input data must be after 1995. Our project, “NASA SPACE EXPLORE,” has three inputs: month, day, and year using dropdowns. The user can get an explanation of the day through the message box, and when they choose the button “Picture of The Day,” the program will open a new webpage showing them a photo from NASA during the day that was typed. If a user leaves a blank on the entry box or has connection issues, an error message will show and let the user know what was the cause of the error. Other features are to display the real-time ISS location on the world map and print out the latitude and longitude every 5 seconds, and the ISS icon moves on the map based on the data. When the person puts the button “The Astronauts on ISS,” it outputs a text file of the current members on board in ISS and the current latitude and longitude. In addition, a message box will tell the user the information is created in a text file named “iss.txt”. Lastly, the exit button is the end of this program.

We used the NASA Open APIs to obtain the data for this program: the API key “1lWoHlIaOFDy4OJbzZfsKnyA0k9IHxUZAcO7aKMY” to access it. In order to run the program, you need to install certain modules, such as requests, json, tkinter, webbrowser, PIL(pillow), turtle, and urllib.request. Otherwise, the program will fail to run.