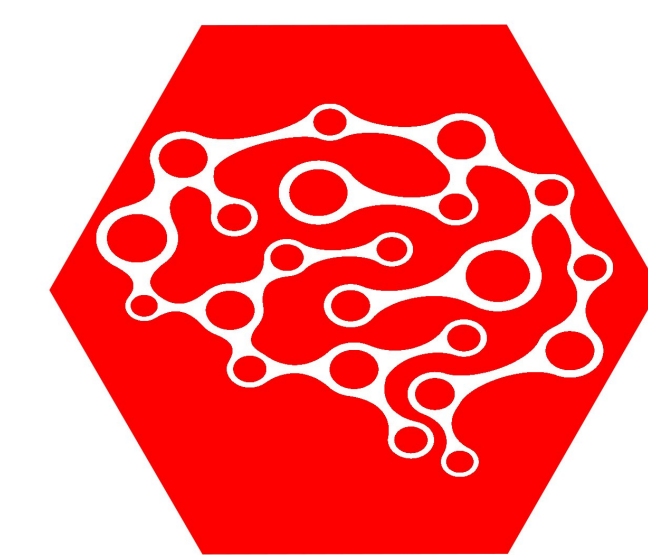




# Alzheimer's Intelligence



Compact Mind

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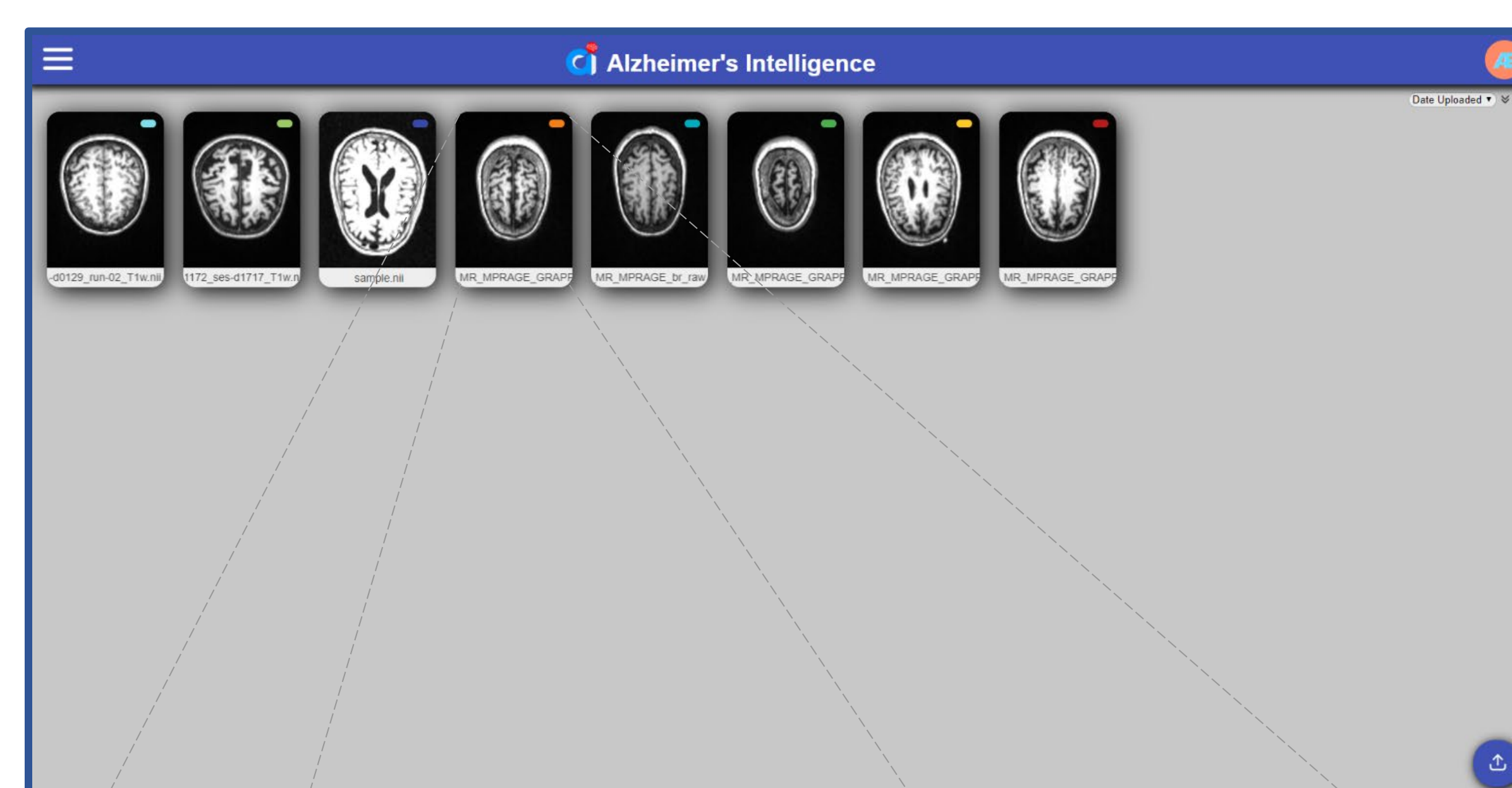


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## Abstract

We aim to scan MRI images to analyze Alzheimer's patients to aid in diagnosis with an emphasis on early diagnosis. Using data analysis and visualization on a dataset of Alzheimer's patient MRI images, we aim to generate reports for patients and doctors in a user-friendly environment. The overall project incorporates UI design, high-performance infrastructure constraints and artificial intelligence data analysis in an end to end product.

## Results



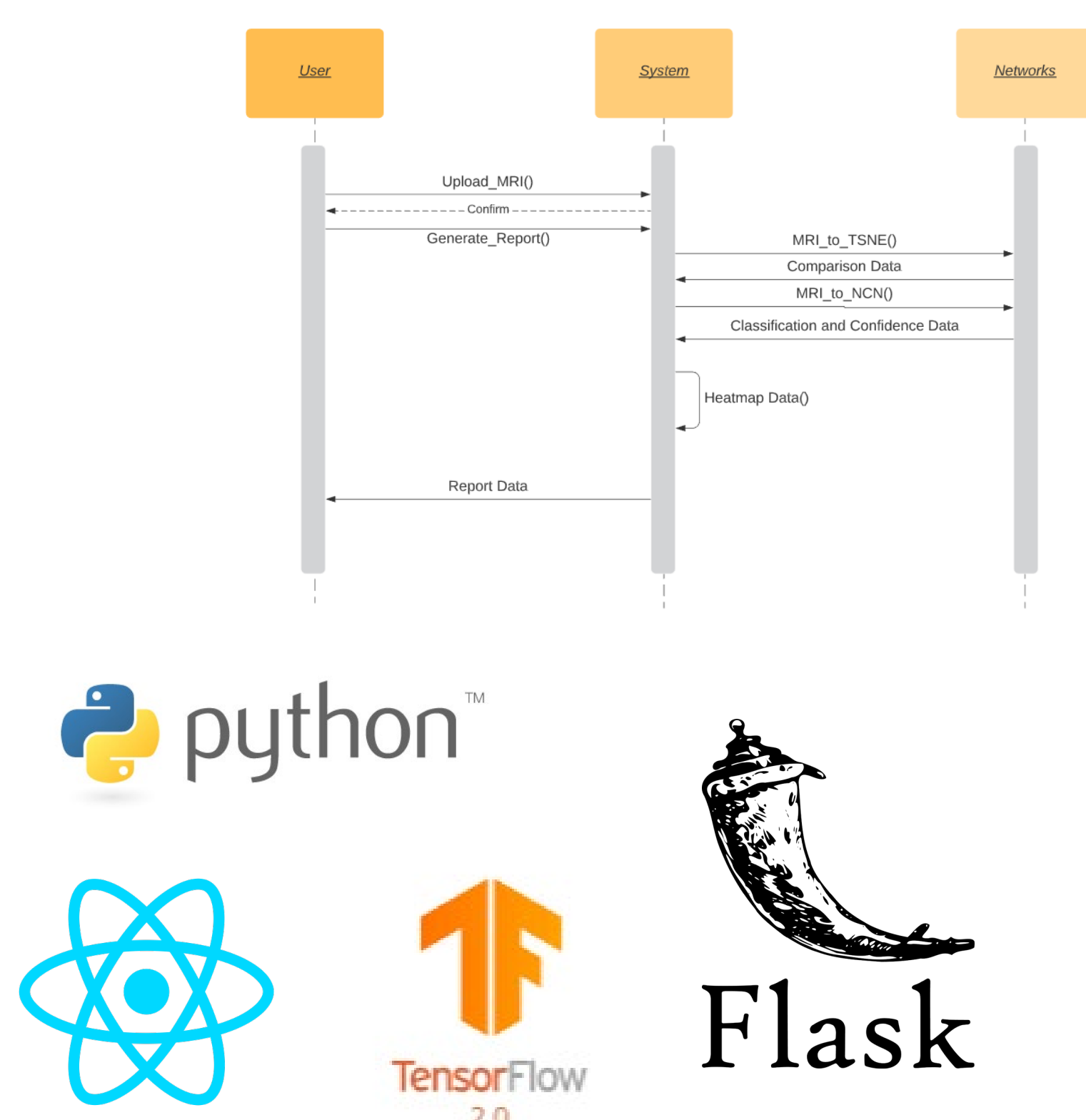
## Architecture

### Backend

- Python
- Flask
- Tensorflow

### Frontend

- React
- Papaya
- Plotly



## Impact

This system provides doctors and patients a way to analyze their MRI scans to spot any cognitive impairments in a user-friendly and easy to digest way. This can be used alongside conventional diagnosis techniques to provide a second opinion to doctors.

## Summary:

This project is designed to be a diagnosis aid for doctors and patients fighting against the Alzheimer's disease. With this project we aim to improve early diagnosis options as well as make it easier for the general public to have access to much needed checkups by designing the project in the e-care space.

Using our system, a patient is able to upload a MRI scan and receive a report showing the likelihood that they have any cognitive impairments within seconds. The user can also store and manage multiple MRI scans for comparison.

## Performance

Used client side caching to improve website responsiveness and reduce web server calls. We employed a Nvidia Tesla K80, a state of the art computation accelerator, to improve inference and mesh generation times.