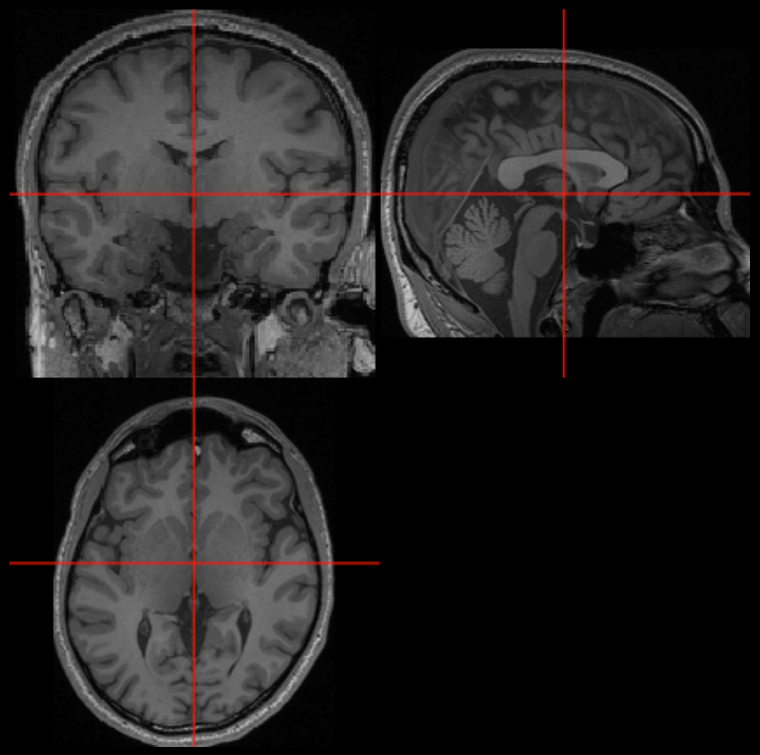
NEURAL LEARNER

CURRENT fMRI OUTPUT RESULT



- grey scale image hard for human eye to distinguish specific data
- hard to locate individual point in brain from orthographic images
- unscalable
- minimal interaction on user "unfriendly" interface

Visual Alert System

effectively summarizes recognized anomaly

Highlighted Specific ROI's (Regions of Interests)

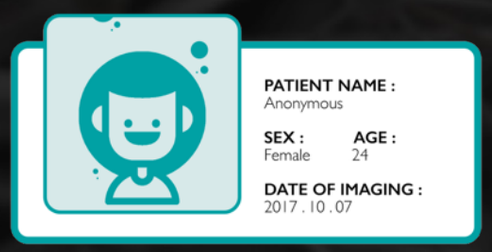
magnifies selective ROI, allowing use to go into details

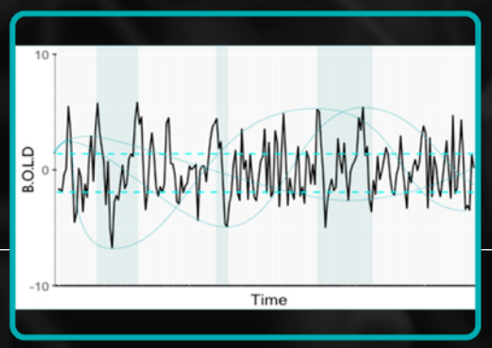
Recognized Parietal Regions

a total of 12 standardized parietal regions for to assist user to easier identify ROI's

UI

visual information graphics



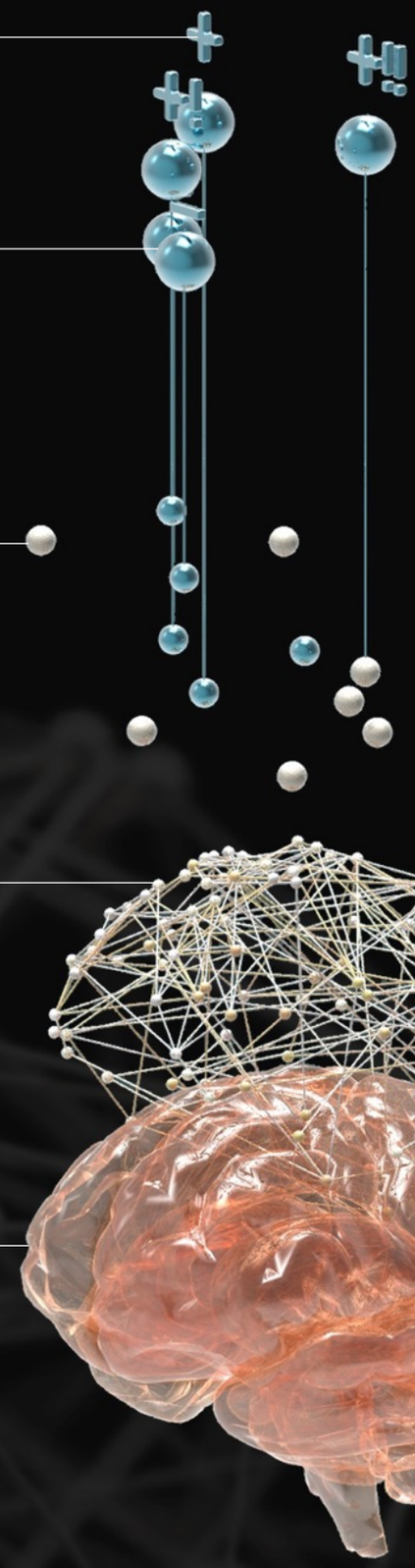


Processed Point-Cloud Interpolation Data Map

visualizes information data gathered via Functional magnetic resonance imaging (fMRI) for easy recognition of imaging error, data density and abnormalities

3D Brain

helps to guide user



PROJECT DESCRIPTION

An augmented reality brain visualization system that helps medical professionals / interns to for better and easier mapping and interpretation of fMRI data sequences.

WHY

- current fMRI visualization sucks
- grey scale image hard for human eye to distinguish specific data
- hard to locate individual point in brain from orthographic images
- minimal interaction (e.g. unscalable, limited 3 views) on user "unfriendly" interface

WHAT DOES OUR A.R. DO

- Project 3D visualization of obtained fMRI data
- Isolates specific areas of interests based on computed anomaly recognition result
- Allows zoom, rotate, and other gestural interaction with 3D data
- Presents data in both 3D format and graphic format

INTENDED USER:

- Doctors, medical professionals and interns
- People with background knowledge on neuroscience
- intends to use this application to assist, not to educate

CURRENT BUILTIN:

- Brain model
- Node-composed point cloud data visualization model +12 Parietal region locators +5 ROI's (Regions of Focus)
- Pop-up Information graphs, tags and other UI's (profile, logo, etc.)

FUTURE PLANS:

Realistic Plans

- Ability to adjust, highlight or zoom on individual nodes in a quick and effective way
- More available data = more helpful interface
- Connected data processing: can input graph automatically to image or to unity

Blue Sky Plans

- Real time data transfer from fMRI imaging technology to AR visualization
- Signal exchange between AR and fMRI (both directions)