BACKGROUND

Traditionally, neuroscientists use isolated words as stimuli while capturing brain images to investigate how the brain reacts. However, Dr Skipper's research has a more natural approach, using movies as stimuli.

As currently there are a limited number of neuroscientists participating in collecting data for this research, he envisions a database where other neuroscientists could submit their data after collection, and where everyone can view the captured images and associated terms of brain processing functions when watching different movies.

REQUIREMENTS

For storing and accessing the submitted data and data to be presented, a database must be built to store information of the brain images in an organized manner. It should store the following:

1. Anaylsed Images
2. Related Information (e.g. date, name of neuroscientist)
3. Associated Terms
4. Movies

To easily submit and retrieve data to/from the database, a dynamic website with such functions is required:

1. Database Access
2. Uploading raw dataset from other Neuroscientist
3. Matching associated Terms (from existing database – Neurosynth) with analysed brain images
4. Getting data from the database
5. Averaging Brain Images
6. Dynamically Presenting Pages with selected Terms/Movies/Brain Images

The client also requested for keywords found in movies' reviews to be included in the database, but given enormity of the must-have components of the database, we have decided we should only pursue the implementation of this feature if we complete the essentials. In addition, he also wanted to have a video annotating component in the form of a game, but again, we have agreed that it can only be a 'stretch goal', a feature to work on only if we have enough time and resources.

PROJECT PLAN

The website should have the following pages:

1. Dataset Submission
    a. Interface for Neuroscientists to register
    b. Interface for Neuroscientists to submit their dataset
    c. Includes a form which they fill out related information on the dataset (e.g. machine used, date, patient details)

2. Analysed Movies Directory
    a. List of all movies which have been analysed (brain scan on subject watching that movie has been collected)

3. Glossary of Terms
    a. List of all Terms matched to any brain image in the database

4. Selected Movie
    a. Averaged image of all brain images captured from patients watching this movie
    b. List of highly associated Term with brain images from this movie
    c. List of all brain images captured

5. Selected Term (in a movie)
    a. Option to see "Selected Term (in all movies)"
    b. Averaged image of all brain image with activation that this Term match in the selected movie