# Git Gud Final Project Proposal

## Project Name: Gud Wallpapers

## Concept (Ben)

We will be making a **wallpaper sharing service** and **automatic aggregator** for desktop and mobile wallpapers. The application will grab images from wallpaper subreddits and high-quality image subreddits on reddit.com and also take user-submitted images. It will display these by type and size and offer a search bar to search for wallpapers by tags. The application will also ideally filter images by resolution, tags, or sources.

## Registration (Nishad)

Users can also register an account on the application to gain additional functionality. Registration will be done by asking the user to provide their email address, and to choose their username and password. Registered users upload pictures, add tags to pictures, and save pictures to a personal gallery. A registered user's gallery will contain his or her uploaded pictures as well as their saved pictures. If a registered user uploads a wallpaper, the particular wall paper will say "Uploaded by XXXX". There will also be a special type of user called a "Moderator", who will have the ability to remove inappropriate wallpapers or tags.

## User Interface (Martin, Stephen)

An unregistered user will be presented with a gallery of popular/featured wallpapers. At the top of the screen there will be a search bar so the user can enter keywords. The user can narrow down their selection with drop down menus containing options for resolution, colors, and tags. Clicking on a wallpaper will present the image in full resolution along with a table containing the image's properties along with a download button. Registered users will have a button to save the image to their favorites. Registered users will upload images and view their favorites via a separate dashboard interface. The dashboard will provide links to their favorites and their own uploaded images.

Bootstrap with Material UI might be used for a simple, easy to navigate user-interface. Additionally, we may add data visualization (with D3.js) to visualize the data of the wallpapers, such as the most common colors and how they differ by source, tag, etc.

# Data (Jason, Stephen)

The app would use MySQL tables to store the data.
Examples of the data that would be stored include:
    <u>sources</u> [id, source, typeid], e.g. "/r/wallpapers"
    <u>types</u> [id, name], e.g. "subreddit"
    <u>wallpapers</u> [id, name, filename, source, resolution]
    <u>wallpapers_tags</u> [id, tagid]
    <u>users</u> [id, name, password, email]
    <u>moderators</u> [id, name, userid]
    <u>tags</u> [id, tagname]

Additional functionality could use:
    <u>sources_confg</u> [sourceid, name, setting], e.g. "MIN_UPVOTES", 50
    <u>wallpaper_colors</u> [wallpaper, color]
    <u>users_ratings</u> [id, userid, wallpaperid, rating]
    <u>users_favorites</u> [id, userid, wallpaperid, width, height]
    <u>users_uploads</u> [id, userid, wallpaperid]

# Other Proposed Ideas

- **Ben:** Campus health and nutrition app that allows you to plan meals, count calories from dining locations, track rec center crowdedness, and map out a running path around campus
- **Jason:** Food recommendation web app. User would input criteria such as type of food, location, price range, etc, and the web app would recommend restaurants.
- **Nishad:** Wallpapers aggregator app
- **Stephen:** Online collaborative music player with "guitar hero" game. Classifier builder where users can submit training data and create classifiers with detailed instructions about what how those classifiers work (e.g. BinaryTree v. Naive Bayes, etc.)
- **Martin:** CSE Scheduling Helper. A user would upload the PDF version of their degree audit and receive possible schedules for the semester. The schedules would be optimized based on RateMyProfessor scores.