# CSE 881 FINAL PROJECT (Cover Page)

Project Title: MyDJ - A Personal Curated Song Recommender System

Project Type:
  Prototype Development

Difficulty Level (choose one): Moderate (3.5 Points)

Justification for your rating:
  1. **Data preprocessing** (+1 point)
     a. In order to predict songs that the user will most likely enjoy based on their initial selection of song preferences, we will need to collect data from multiple sources such that the sources each contain user bases that are dissimilar. Most of the sources will likely supply their data in different formats so we will need to preprocess each source to unify the format of the data.
  2. **Algorithm development** (+1 point)
     a. We believe that implementing an ensemble of different machine learning algorithms will yield the best results when predicting songs users will enjoy based on their preference list. This ensemble method will require that we implement our models manually and avoid using library methods due to their inability to be stitched together. An example of this is our plan combining both NLP and collaborative filtering in order to improve the accuracy of our recommendation algorithm.
  3. **Evaluation** (+0.5 points)
     a. We plan to evaluate our model using a combination of labelled music recommendation data sets
  4. **Prototype development** (+1 point)
     a. We plan to implement a website that is hosted on a cloud provider (either GCP or AWS) which recommends songs on the fly for any new user that visits the site. The website will query our live database and display recommendations dynamically for each user depending on the music preferences they select when they first load the website.
  5. **Ground truth labels**
     a. Many music preference data sets do not denote if a user favors a certain song or genre. We can infer ground truth labels by taking into account factors such as the ratio between how many times a user played a certain song and the total number of songs played.

# Summary of Team Member Participation:

Fill out the following table for each team member with a rating from 1 to 3 (1: poor, 2: satisfactory, 3: good). For "responsive to emails" and "attendance at project meetings", the rating must be provided by averaging the rating provided by other members of the group.

| Name | Responsive to emails* | Attended project meetings* | Participate in data collection /preprocessing | Participate in coding | Participate in analysis/ experiments | Writing final report | Class presentation | Completed Assigned Tasks |
|---|---|---|---|---|---|---|---|---|
| Ibrahim Ahmed | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Aasiruddin Walajahi | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Ikechukwu Uchendu | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |

# Team Member Roles and Contributions:

| Name | Roles and Contributions |
|---|---|
| Ibrahim Ahmed | Responsible for collecting and preprocessing data; Developed the website interface; help writing the final report/presentation. |
| Aasiruddin Walajahi | Help with data collection; Developed the REST interface connecting the website to the Google App Engine backend; help writing the final report/presentation. |
| Ikechukwu Uchendu | Help with data collection; Responsible for algorithm development; help writing the final report/presentation. |

I approve the content of the final report (please add your signature below):


Ibrahim Ahmed: _____Ibrahim Ahmed_____


Aasiruddin Walajahi: _____Aasiruddin Walajahi____


Ikechukwu Uchendu: _____Ikechukwu Uchendu____