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Software Development Plan
CMSI 401
Prof. Johnson

4.1 SDP Plan Introduction

This Software Development Plan provides the details of the planned development for the yung gan software which provides a command line application to both generate music from pretrained models and to train a new model from a wav or mp3 music collection.

4.1.1 Project Deliverables

D#01	Project Proposal Presentation / Document ● Description of how Generative Adversarial Networks work. Also included an explanation of our desired project: yung gan, and its implementations. Described the software/hardware needed to create such an application and what it would eventually output as an end result	Week 02
D#02	Requirements Specification ● Included the base requirements needed to begin the first phase of testing our application. Initial Development Schedule (Part of SDP draft) ● Contains a list of specific tasks needed to be executed in order to develop our application.	Week 05
D#03	Software Development Plan Document (complete) ● Included are explanations of each document for the process of our application, along with final software/hardware requirements, a project schedules and GANTT chart.	Week 07

D#04	**Project Preliminary Design Review Presentation** Software Design Description Document (Architecture Section) ● Includes a description of our application's hardware/software and the overall design we decided to implement.	Week 11
D#05	**Project Critical Design Review Presentation [now combined with Alpha/Beta]** Software Design Description Document Complete) ● Further details about our project design and explanations for our reasoning.	Week 12
D#06	**ALPHA/BETA Presentation/Demonstration** Test and Integration Plan ● Includes the testing strategies we chose to use and how we will implement them to better our application.	Week 14
D#07	User's Manual Final Updates ● Includes instructions on how to obtain, activate and use the application we have implemented.	Week 15
D#08	**FINAL Product Delivery (Final Report and Code)** User's Manual Final Updates ● Includes the final project and the results we have concluded after several tests and iterations. Additional updates to the User manual and descriptions about the application as a whole.	Week 16
D#09	**FINAL Project Presentation** ● A description of our application's functionality, design, and uses. Also included is a demonstration and our goal for the application for the future.	Week 15 by popular vote … NO ELECTORAL COLLEGE HERE!
D#10	Oral Status Reports ● An in-person report of the project experience and its fulfillment.	Week 05 Week 15 and part of all presentations
D#11	Written Status Reports in the project SDF ● Bi-Weekly reports following the Oral Report, keeping track of the application's status and improvement.	Every other week starting at Week 06

4.2 Project Resources

4.2.1 Hardware Resources

- Macbook
- Mac Computer
- Wifi
- For CPU:

    Minimum Requirements:

    - CPU: 2.4GHz dual core processor
    - RAM: 16 GB
    - Storage: 64 GB

    Suggested:

    - CPU: 2.4GHz quad core processor
    - GPU: CUA enabled NVIDIA
    - RAM: 64 GB
    - Storage: 128 GB

4.2.2 Software Resources

- Text Editor
    - Visual Studio Code Version 1.38.1
- OS
    - Mac OS Mojave Ver. 10.14.6
    - Windows OS
- Python Ver. 3.6 or above
- Keras Ver. 2.2.4
- TensorFlow Ver. 1.14
- Other
    - Terminal
    - Github
    - Google Docs
    - Soundcloud
    - Youtube
    - Soundcloud/Youtube Downloader
    -

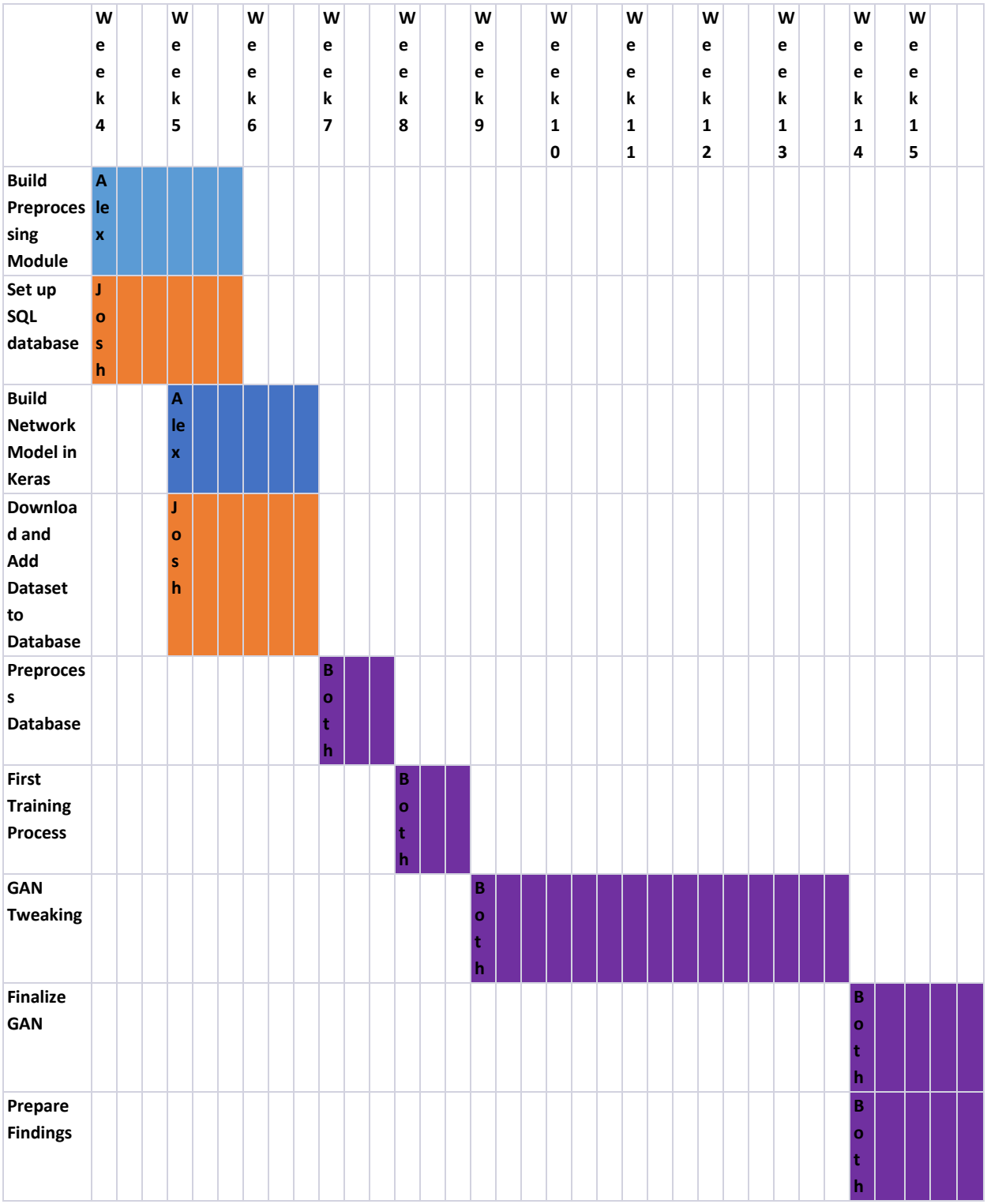
4.3 Project Organization

Generative Adversarial Network creation, testing, and updating:

- Alex Richardson
- Joshua Patterson

4.4 Project Schedule

4.4.1 GANTT Chart



4.4.2 Task / Resource Table

Task	Resources	Involved	Software
Download and Run Keras/TensorFlow	Macbook	Josh + Alex	Python/Keras
Starter GAN (MNIST)	Macbook	Josh + Alex	Python/Keras
Collect Song Data	Macbook	Josh + Alex	Soundcloud/Youtube
Generator Development	Macbook	Josh + Alex	Python/Keras
Trainer Development	Macbook	Josh + Alex	Python/Keras
Test on Command Line	Macbook	Josh + Alex	Python/Keras
Create Song Database	Macbook	Josh + Alex	Python/Keras
Generator Testing	ACT Lab (Doolan)	Josh + Alex	Python/Keras
Trainer Testing	ACT Lab (Doolan)	Josh + Alex	Python/Keras
Implement Song Data	ACT Lab (Doolan)	Josh + Alex	Python/Keras
Gather Data and Imply Loss Function	ACT Lab (Doolan)	Josh + Alex	Python/Keras
Fine Tune Generator	ACT Lab (Doolan)	Josh + Alex	Python/Keras
Repeat and Collect Findings	ACT Lab (Doolan)	Josh + Alex	Python/Keras