Recommending Alpha

Group #16
Individual Contributions

Group Members:

Vedanta Dhobley: vjd41@scarletmail.rutgers.edu

Avani Bhardwaj: ab1572@scarletmail.rutgers.edu

Shazidul Islam: si194@scarletmail.rutgers.edu

Akshat Shah: avs91@scarletmail.rutgers.edu

Kutay Kerimoglu: kk851@scarletmail.rutgers.edu

Alan Patel: akp122@scarletmail.rutgers.edu

Anthony Matos: amm720@scarletmail.rutgers.edu

Joel Cruz: jc2125@scarletmail.rutgers.edu

Shazidul Islam (si194): Helped with the creation of the Demo 1 Power point presentation. In the presentation, Shazidul was the one that created the road maps as well as put together the User Case Scenarios, Backend reasoning, and the general idea of why our program is useful. Helped with the coding in the backend, which was considered but then not used due to finding a much more effective way of implementing the idea using cosine algo. Learned Python fully to make sure that I would be able to understand my teams code as well as implement ideas around pythons coding rules

Joel Cruz (jc2125): Once provided with the road map of the presentation, I presented it for the demo, as a way to ease into the actual presentation before we actually addressed the intricate details of the project. I also made sure to understand all the moving parts of the project in preparation for questions from professor and our fellow TA's. I also had to learn Python during spring break in order to work on the tier system of our project, but by the time the demo had arrived the tier system wasn't complete and was not a usable factor of the demonstration. Therefore, it will be a part of the second demo, and will be the piece of our project who will provide users with a more accurate result of our findings. Along with Shazidul, Alan, and Vedanta, i am a part of the backend unit of our group.

Avani Bhardwaj (ab1572): Head of documentation and bug testing with Kutay. Helped manage the team as a whole with scheduling meetings, deadlines, and rehearsals. Took all the notes from each meeting for the documentation files. Worked with Kutay to do the documentation formatting. We both also worked on debugging the lines of book and author names in the excel spreadsheet where our database was located. I am learning a bit of HTML and CSS to make the visuals of our project look better when it is time to integrate the frontend and backend parts. I made the brochure and did the powerpoint slides with Shazidul where we worked on the Use Cases and presentation structure. I will continue to do the documentation and bug testing from now onwards.

Alan Patel (akp122): Researched many different recommendation algorithms to finally come upon the cosine similarity algorithm to compare tags and authors, which I then had to tweak around to work with more than one input. It took some simple linear algebra and python programming. My other teammates were trying to use a tag weighting system, but when I found out about this one I completely created new code that replaced the old program, which made our program give more accurate recommendations. I also am the team member that programmed all python code which contained the flask web framework to communicate to the web page, the recommendation algorithm, and the outputted list of books. I am now currently working with Shaz and Joel to create a tier system from the list of books that I have found using the cosine algo. While I was programming I would also concurrently type in the technical and user documentations to make sure someone else other than me could understand what I was programming and how to use it. I also found the database of 10000 books from goodreads, which I formatted. Along with Avani, I cleaned the dataset to help remove any anomalies in the dataset. I have also helped Akshat and Anthony with any errors they received while doing the front end programming because I have experience in HTML and CSS as well.

Akshat Shah (avs91): In order to set up the frontend, I learned to launch Bootstrap with Anthony to put up the basic search bar at first. Afterward, I worked on styling the page to add the search bar in the center and added a responsive search button, which directs to the output web page. I made it user-friendly by putting the application name above the search bar. For the result page, I worked with Alan on the Python code to add the segment that communicates that takes the input from frontend, sends to the backend and sends the output back to the frontend. After initializing the Flask in Python to generate the result webpage, I worked on converting the output from series to string and displayed as list form. Additionally, I implemented the local server on the Python code that is executable remotely on any browser.

Anthony Matos(amm720): For the frontend component, I was responsible for initiating the bootstrap that would yield a responsive and user-friendly search bar. Using HTML, I created the search bar with a drop down list of possible inputs that the user might have had in mind. To add to that, I spent hours trying to append a search button that would stay together with the search bar whenever I tried to center both components together while also matching their sizes. Not only was it important to keep it simple for the user to operate, I came up with a navy blue and orange color scheme coded in CSS to give an appealing visual for all users with different vision capabilities. Additionally, the local server was implemented in the python code by other teammates, namely Alan and Akshat, but i connected it to this frontend page using a form in HTML that takes the users input of the books' names and passes them to the algorithm in the python code.

Kutay Kerimoglu (kk851): I helped Avani with all of the documentation for every week. I learned a bit of Python in order to help the backend and frontend team members with the bug testing. So far most of my contributions were in the documentation area and the demo materials preparation. I helped with the brochure and the powerpoint. I helped with the explanations of the use cases for the demo. I have worked on the reports and more importantly, I relay information between frontend and backend and help Avani take notes as to what we need for the documentation. My biggest role is to do the final product testing multitudes of times in order to ensure that our algorithms work properly. While the other members are doing their development, I keep track of what is going on so that I can properly incorporate it into the documentation and I will know what to do for the later parts of the project.

Vedanta Dhobley (vjd41): Developed the original Python script to index and sort books, returning identification values and tag data as an object class for quick and easy manipulation. This is the code that was used as the basis for retrieving book information to pass to our recommendation algorithm. When deciding on project specifics, I decided that our design should be user-less in order to allow for a simple input-output interaction with our frontend, defining the simple philosophy of our UI design and input format. I also incepted the idea of using a tier system to display our results, allowing users to see a statistically sorted list of books placed in categories based on similarity to the input. Using tag similarity as our method of comparing books was also my idea, as I realized that using book summaries or reviews would be extremely

subjective, whereas the tags assigned to describe the facets of a book would be objective. During the presentation, I defined our project and explained the ideas that lead us to the product we aim to create, going in detail about our user interface, frontend, and backend. I am currently working on improving our database management and book retrieval, with plans to use book index data directly from the user input to produce an O(1) time for each book and tag retrieval. I am also currently working on a statistical sorting algorithm, where the output list of books along with the "points" they've each been assigned can be analyzed and segregated based on standard deviations.