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| Time Spent Description | Date | Start Time | Stop Time | Time taken  (in hours) |
| Finding dataset to use for project | 3/2/17 | 2:30 pm | 5:30 pm | 3 |
| Figuring out how to read a CSV file into python and access its elements | 3/6/17 | 4:30 pm | 6:30 pm | 2 |
| Coursera Course on collaborative recommendation systems (<https://www.coursera.org/learn/recommender-systems-introduction/home/welcome>) | 3/10/17-3/21/17 |  |  | Approximately 10 hours |
| Making 2D dictionary for user ratings, fixing bugs with CSV file | 3/22/17-3/24/17 |  |  | 4 hours |
| Writing different functions essential to implement collaborative filtering: average user ratings, average book ratings, finding summations, trying out different forms of the formula, testing and debugging, using excel to verify accuracy of python functions, testing model by removing certain books that a user had already rated and then trying to predict ratings for these books | 3/27/17-  3/30/17 |  |  | 12 hours (unsure exactly how much time, but this is a minimum estimate) |
| Conceptualizing the UI; Trying to use Django, managing to build basic webpages, but then deciding to stick with Tkinter | 3/31/17 |  |  | 3 hours |
| Messing around with PIL and images, crafting my own buttons using image Preview | 4/3/17 |  |  | 2 hours |
| Making different screens like I’d initially visualized; managing to display book named instead of ISBNs; developed a click-based rating system that lets users toggle between ratings, delete and add new ratings, activate a submit button once ten or more books have been rated | 4/4/17-  4/7/17 |  |  | 8 hours |
| Increasing efficiency of code; since I have a ridiculously large data set, many of my functions ran extremely slowly. | 4/8/17 |  |  | 3 hours |
| Working on a search feature to let the user pick their books to rate instead of having to go through a long list | 4/9/17 | 9:30 pm | 1 am | 3.5 hours |
| Competitive analysis | 4/15/17 | 1:00 pm | 4:00 pm | 3 hours |
| Project Proposal + time sheet | 4/15/17 | 5:00 pm | 6:30 pm | 1.5 hours |
| **Post TP1 work:** |  |  |  |  |
| Search feature redrawAll function | 4/17/17 | 4:00  pm | 7:00  pm | 3 hours |
| Audio: page flipping sounds | 4/19/17 | 11:00  pm | 12:30  am | 1.5 hours |
| Getting the thumbnail images for books to display | 4/20/17 | 12:00  pm | 5:00  pm | 5 hours |
| Solving graph bugs and search bugs | 4/22/17 | 3:00  pm | 6:00  pm | 3 hours |
| Changing the entire user interface; using Mac’s image preview to create screens for every page, and adding a few new screens, changing all buttons. | 4/25/17-  4/26/17 |  |  | Conservative estimate:  10 hours |
| Adding audio summaries | 4/30/17 |  |  | 2 hours |
| Search feature bug: could not add more after clicking submit, could not add more after clicking back | 5/1/17-  5/2/17 |  |  | Approx. 3 hours |
| Making project video | 5/2/17 |  |  | 1 hour |
| Test functions + example to see how it works | 5/2/17 |  |  | 1 hour |
| Improving style + adding comments | 5/3/17 |  |  | 2 hours |
| Updating timesheet, writing readme file and preparing final submission | 5/3/17 |  |  | 1 hour |

**Total time taken until now: 88 hours**