EasyA User Instructions

Connie Williamson 2/1/2024

Table of Contents

Initial Setup

To use EasyA, you must have Python 3 installed on your machine. It may be installed before or after downloading EasyA, but must be installed to set up EasyA. Once python is installed, unzip *EasyA.zip* into the directory of choice. Next, install the following python packages using the package installer of choice:

- bs4
- requests
- matplotlib
- re
- tkinter

For Windows, Mac OS and Linux machines, the package installer that is automatically installed with Python is pip. To install these packages, first open a terminal and navigate to the directory EasyA was unzipped into. Enter “pip install <package name>” into the terminal, substituting each package listed above for <package name>. If you encounter problems with installing these packages, reference the pip3 and python documentation.

To continue setup of the system, proceed to section “Admin Mode” and follow the instructions there to import system data.

Administrator Mode

Admin mode is used to initially set up the data in a CSV file, along with updating the information about faculty using a web scraper. Admin mode does not have a UI, and instead uses the command line interface. Open a terminal and navigate to the “EasyA” directory, then into the “Source Code” directory. Enter Administrator Mode by entering “python admin.py” into the terminal. The functionalities of administrator mode are outlined as follows:

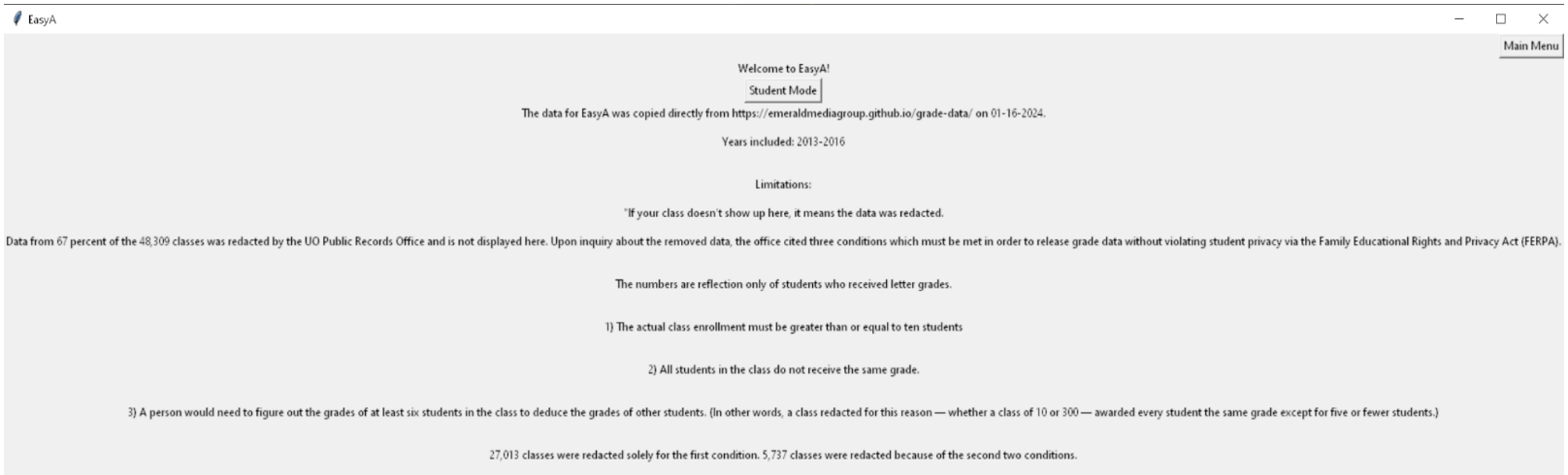
1. Verify (-V or --verify): Verify the current grade database located in *data.csv* matches the data in *gradedata.js* provided by the Daily Emerald System.
2. Webscrape (-W or --webscraper): Scrapes University of Oregon web pages using the Wayback Machine to find all Natural Sciences faculty names from 2016. This function should be run before using Student Mode to ensure all graphs display properly. Do not run this option more than once per 5 minutes to prevent being blocked by the Wayback machine for viewing too many pages in a short period of time.
3. Replace (-R or --replace <filename>): Replace the current database with the one provided. A backup of the old database will be made. By default, the database is located in data.csv which is a filtered version of *gradedata.js* from the Daily Emerald System. The filtering removed Pass/Fail classes and classes outside of the Natural Sciences departments.

Before entering Student Mode for the first time, Webscrape should be run to ensure that all graphs display properly. All other functionalities are optional for setup. If Webscrape is not run before entering Student Mode, selecting the “Display Only Regular Faculty” option will result in no graph due to there being no regular faculty data.

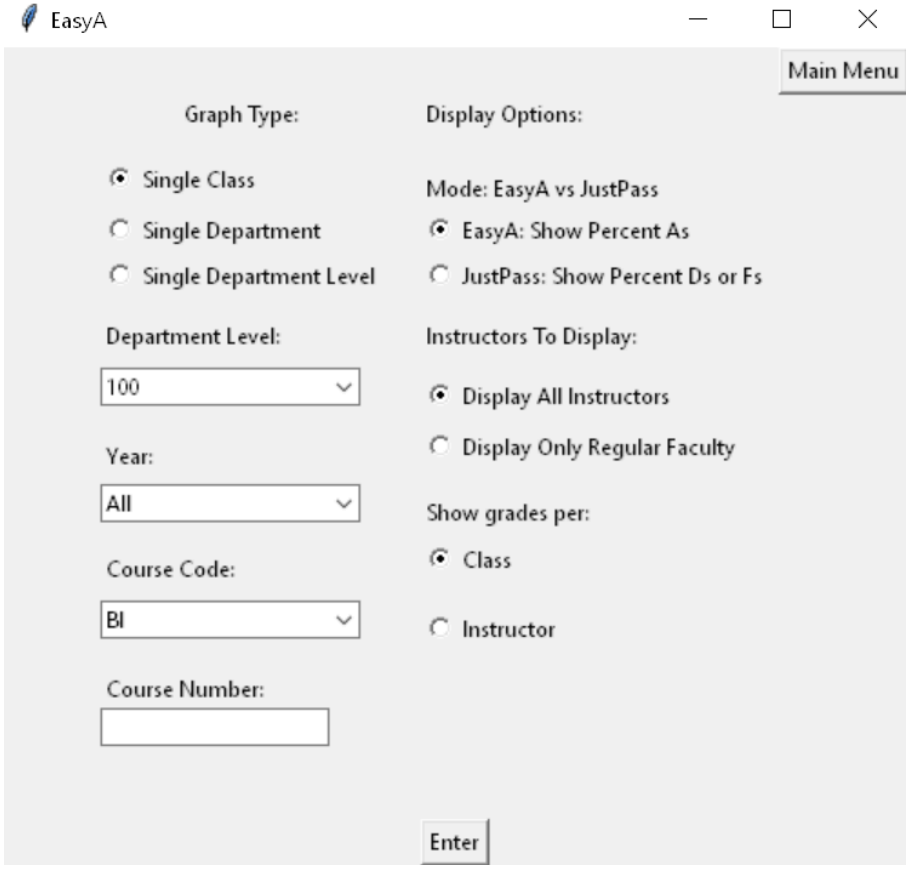
Student Mode

Student mode is used to display data about University of Oregon professors so that students can compare which professors in which classes are giving the most A grades, and which are giving the fewest failing grades. This is done by displaying graphs, with several options for the user to choose what elements to include in the graph.

Enter student mode and launch the application after performing the setup steps by first navigating to the directory EasyA is installed in with a terminal. Next, enter “python student_interface.py” to launch the EasyA interface. The main menu should appear:



Press the “Student Mode” button to enter Student Mode and continue to this screen:



Student mode is used to create graphs to visualize the data in the EasyA system. Below is a description of what each option in the interface does and how they interact:

Graph Type: There are three distinct graph types. Changing an option in this section will alter the data input into the resulting graph according to these descriptions.

- Single Class: Display information for a single class offering at the University of Oregon.The data options Year, Course Code, and Course Number must be filled out in accordance with a valid class code from the selected years. Department Level is optional and will not have an effect on the final graph with this graph type.
- Single Department: Display information for all classes in a department. Only the data options Year and Course Code (which selects the department to display) are relevant to the end graph. It is possible to input values for the other data options, but they will not influence the resulting graph.
- Single Department Level: Display information similar to Single Department, but only for classes of a particular level within that department. In addition to Year and Course Code, the Department Level selection will have an effect on the resulting graph.

Display Options: These are the three groups of radio buttons on the right side of the EasyA interface. The combination of these options will not change what data is pulled from the database, but does change how that data is displayed.

- Mode: EasyA vs JustPass: The option EasyA will display the y-axis of the graph as “%As”, where a higher value indicates a higher percentage of students received an A grade in the class. The JustPass option is similar, but displays “%Ds and Fs” on the y-axis, where a higher value indicates a higher percentage of students failing the class.
- Instructors to Display: The EasyA system has two types of instructors, all instructors (i.e. grad students, adjuncts, tenured faculty, etc.) and regular faculty. Regular faculty filters the end graph to only display faculty listed as “Regular Faculty” on the University of Oregon website in 2016 using the Wayback Machine. If web scraping has not been done in Administrator Mode prior to selecting “Display Only Regular Faculty”, then a graph will not be generated because there is no faculty data in the system.
- Show grades per: This changes how the x-axis is organized. By selecting Class, the x-axis will be organized by class code. By selecting Instructor, the x-axis will be organized by instructor names, along with a count of how many times that instructor has taught in that class category.

After selecting the options applicable to the user’s goal, hit the “Enter” button to generate a graph. A separate window will pop up with the specified information. If there is no information in the database matching that description (i.e. an incorrect class code) then no graph will display. There will be an output in the terminal to confirm that this is the case. The user can display multiple graphs side by side by creating the first graph, changing the options in the interface, and then hitting “Enter” again. The graph windows can be manipulated on the screen however the user wishes to display many graphs alongside each other. Exit each graph by hitting the “X” in the top right corner, and exit the EasyA system by hitting the “X” in the top right corner.