How to use the StudentPaths Explorer

Things to add:

1. Images
2. A section briefly explaining what each method (grouping type) is doing
3. More information about the side-by-side view
4. Scenarios
5. Common possible errors and solutions

Initial installation:

**WARNING:** This installation *may* cause your computer to automatically restart. Before starting the process it is recommended to save all your work and be prepared for an abrupt reboot.

1. Download “StudentPathsExplorer-Installer.exe” from Box.
2. Double-click StudentPathsExplorer-Installer.exe. Select where to put the setup files (default is your Desktop).
3. Wait for files to unpack. This can take a while.
4. Once unpacking is finished, open the “StudentPaths-Explorer” folder (located where you specified in step 2).
5. Right click on “setup.cmd” and click “Run as Administrator”.
6. Follow on screen prompts to install.
7. If the terminal asks you to do anything at this point, the install failed. Close the terminal and read the “Alternate Installation” instructions below.
8. If the terminal says it completed successfully, then you are done!

Alternate Installation:

1. If the above method did not work (specifically at step 7), follow these instructions.
2. Click on your Start menu and type “mysql”. The “MySQL Installer - Community” should show up as an option. Click on it.
3. A window will pop up asking if you want to allow MySQL to make changes. Click on “Yes”.
4. Click on “Server Only”, then click “Next”.
5. Keep all default settings except for two. Make sure the “Port” is 3406, and set the root password to “password” (no quotes).
6. Click on Execute and Next as required, until the window says that it is installed successfully. Close the window.
7. Open Windows Explorer (file explorer) and navigate to the MySql Program Files folder. This will be in <Your Computer>\<Your default drive (probably C)\Program Files (x86)\MySQL. If it is not there, try Program Files (without the x86).
8. In the MySQL folder double click on the “bin” folder. Then, click on the navigation bar at the top of the explorer, which will show the full file path you are on. Select the whole path and copy it (Ctrl+C or right-click -> copy).
9. Click on your Start menu and type “environment”. Click on “Edit the system environment variables”.
10. Click on “Environment Variables”.
11. In the lower window (labeled “System variables”), find the Variable called “path”. Double-click on this variable.
12. Click “New”, then paste the path you copied (Ctrl+V or right-click -> paste).
13. Click “Ok”, “Ok”, “Ok”.
14. Go back to your file explorer window, and navigate to the StudentPaths-Explorer folder (by default on your desktop). Click on the navigation bar at the top of the explorer, which will show the full file path you are on. Select the whole path and copy it (Ctrl+C or right-click -> copy).
15. Click on your Start menu and type “mysql command”. The “MySQL Command Line Client” should show up as an option. Click on it.
16. Type “source “ (including space), then paste the path you copied (Ctrl+V or right-click -> paste), use *arrow keys* to go back and change all “\” to “/”, then type “/db.sql;”.
17. Hit “Enter”.
18. Once the file is finished running (it does not take long), exit the window. Installation is complete!

Start tool:

1. Run Advisor.exe. This will open a few terminal windows and a browser window.
2. Find the terminal that says “react-scripts start”. Wait for the window to say “Compiled successfully!” in green at the top.
3. Go to the browser window that opened and refresh (hit “F5” or click on the refresh button).
4. You should see the tool’s opening screen. Go to “Usage” for more information on using the tool.

General Tips:

* At any point, you can change what is in the input fields, then click the relevant “Submit” button. This will reset all information below that button, and show the new information.
* To restart completely, you can also refresh the page (click the “refresh” button or press F5).
* The results grids may overlap each other. If this happens, try making the Google Chrome window bigger. If it still cannot be fixed, contact us for assistance.

Usage:

1. Download studentInfo.csv from the Box folder under Tools > StudentPaths.
2. Enter the student’s Peoplesoft number in the “StudentID” field.
3. The current semester field will be populated with the assumed current semester based on today’s date. If that is not correct or you wish to view a different semester, enter it in PeopleSoft notation (i.e. Fall Semester 2020-2021 is 2211).
4. Click “Choose File” and navigate to where studentInfo.csv was downloaded, click that file, then click “Open”.
5. Click “Submit”.
6. You will see “Terms from start” which says how many semesters it has been **since the target student took their first CS course**, and a table showing their CS course history. Term 0 indicates the first time they started taking CS courses.
7. Below that are two dropdown menus that are side-by-side. Both function identically.
   1. Click a menu and select one of the three StudentPath calculation methods: “Deterministic Method”, “Machine Learning Method 1”, or “Machine Learning Method 2”. Definitions for each type can be found in the following sections.
   2. Then, enter the requested information in order to retrieve similar students.

Deterministic Method:

1. Enter the number of semesters into the future to examine (e.g. 1 means the semester after the current one) in the first text box.
2. Enter the “largest allowable difference in semesters”. A difference of 0 means that the relative position of the target student’s courses must exactly match that of the historical students. Higher numbers mean that the relative positions can be more flexible (by that number of semesters).
3. Enter the “largest allowable difference in grades”. A difference of 0 means that the grade that the target student got in a course must exactly match the grade that the historical students got. Higher numbers mean that the grades can differ by that amount. Numbers are using GPA calculations, i.e. A is 4 and B is 3. Thus, a difference of “1” is the same as allowing a difference of one letter grade.
4. “Use Only Mandatory Courses” asks whether you would like the tool to only consider the target student’s mandatory CS courses (i.e. 401, 441, 445, etc.). If unchecked, the tool will also compare the target student’s CS electives to the historical students.
5. “Only include students who completed all mandatory CS courses” asks whether you would like the tool to only consider historical students who have a letter grade in at least the 8 CS courses that are mandatory for a CS degree. These are 401, 441, 445, 447, 449, 1501, 1502, and 1550. If this is unchecked then the tool will use all students in the database.
6. Click “Submit”.

Machine Learning Methods:

1. Enter the number of semesters into the future to examine (e.g. 1 means the semester after the current one) in the text box.
2. Then there is a dropdown menu, which asks you to select a cluster. Click on the menu, and look at the different clusters for that ML method. You can see the “distance” from the target student to that cluster. The shorter the distance the stronger the association is for the student to be assigned to the cluster. Clusters in that menu are already ordered based on this distance. It also shows the number of students in each cluster.
3. Select a cluster from the menu.
4. Click “Submit”.

Results Display:

1. No matter which method was selected, the results are displayed the same way.
2. First it shows how many students match using the requested method. Then there is a table showing all of the courses that those matching students took in the next X semesters, where X is the number of future semesters you entered above. Mandatory courses are shown first, then electives, and within that they are sorted by catalog number.
3. For each course, it shows the catalog number, how many matching students took that course in the given timeframe, the average grade they got, and the average number of semesters that the course was taken in.
4. Click on a course catalog number to see detailed information about that course.

Course Information

1. The catalog number of the selected course is shown, along with a graph showing the breakdown of that course based on the matching students and the requested timeframe.
2. First, the course is broken up by semester. There are nodes that represent how many semesters in the future this class was taken, and the size of the nodes represent the relative portion of the students that took the course then. This percentage can be seen by hovering your mouse over the link between the far left node and the semester node. Each semester shows how far in the future it is, the average grade of the students who took the course then, and that grade translated to its letter equivalent.
3. Each semester is then broken up by grade. The far right nodes show the letter grades, and their sizes are based on the number of students who got that grade. The links from semester nodes to grade nodes show what percentage of students who took the course that semester got that grade. Hovering over the link shows the exact percentage.
4. Click “Back” to go back to the Results Display.

Troubleshooting

* If there is any issue with the tool, first try refreshing the page. This should undo anything that happened. If that doesn’t work try closing all windows related to the tool and starting the tool again.
* If you see an error screen pop up, this is most likely because of a problem with the .csv file. Make sure to use the right one!
* In the Deterministic Method, if there are no results in the grid this may be because of overly strict parameters. Try increasing the leeway(s) or checking “Use Only Mandatory Courses” to widen the search.
* If there are still no results in the Deterministic Method or no results in either of the Machine Learning Methods, the server likely crashed. Close all windows relating to the tool (the browser window and any terminals that opened) and start the tool again (see “Start Tool” above).
* If only two terminal windows appear, try restarting the tool. If there are still only two windows, or if you see that one window opened and then immediately closed, you have to re-install the MySQL Server.
  + Go to Start menu, type “MySQL”, click on “MySQL Installer”. Click “yes” to allow changes, then when it finishes loading click on “Remove” on the right. Select “MySQL Server” and click next. Continue through the menus clicking “next” and “execute” as directed.
  + Then, go to the “Alternate Installation” section above. Complete steps 4-6 and 14-18. Then start the tool again, it should be working!
* If there are any errors that are not fixed by the methods above, please contact us for assistance.