Team name: KPMGComeGetUs

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Setting up Environment

1. Open a terminal and navigate to the file where run.sh is.
2. Execute `./run.sh` (Uses maven to build the JAR, then Java to run the JAR)

Meeting Demands

Prerequisite

- On application startup, the first thing you will see is the Settings tab within the Setup page.
- Within that tab, you can
    - specify the number of students the random candidateSolution should generate,
    - toggle hard/soft constraints the fitness evaluation function uses,
    - toggle GPA consideration which will affect the fitness evaluation function, and CSVReader/Writer, and
    - toggle other application settings.
- At this point,
    - the Load/Generate Students tab is disabled until projects are loaded/generated (this is because a student object has ProjectAssigned and PreferenceList field that relies on the projects),
    - the solvers page on the left is also disabled until projects + students are loaded/generated (this is because you cannot do any computation until projects and students exist).
    - This design is used to subtly guide users to use the application.

Load Data Sets

- In the Setup page, there are 3 tabs. The latter two of which are used to load projects and students.
- Warning messages will be shown if the loaded file does not conform to the expected CSV format.
- On successful load, the data will be displayed in the table/sheet for inspection of correctness.
- Once the projects are successfully loaded in, the students tab will now be accessible.
- Once the students are successfully loaded in, the solvers page will then be accessible.

Choose Solver Parameters (GA vs. SA)

- Once projects and students are populated, you can click on any of the two solvers.
- On left click, the pane will expand out.

- You can then specify the parameters for the unique solvers.
- These parameters are stored in Settings.java, which can be globally (to prevent pass-by-value hell) accessed by whatever object requires these parameters.

Obtain Solutions to the allocation problem

- Within either of the solvers page, you will be presented with:
    - a graph,
    - processing thread's progress indicator,
    - control buttons,
    - the current/best solution with strength indicator, constraint violations, and their table.
- If you click 'Play' in the control buttons, the solver will use the specified parameters to try to obtain the solutions.
- If animation is:
    - enabled (slower), the graph, processing thread's progress indicator, solution strength indicator, constraint violations and table will be updated constantly.
    - disabled (faster), only the processing thread's progress indicator will be updated. Once computation is done, only then the graph and solutions' strength, constraints, and table will be updated.
- Once computation is done, solutions to the allocation problem will be populated in the table/sheet below.

Save Solutions to Disk

- Below the table/sheet in either of the solvers page, there is a 'Save to File' button.
- Click on the button, and you can then specify a location in the disk you would like to save the solution.