WMU Cohorts Project

Alex Markules, Grant Farnsworth, Jake Kampf

TPS Report

2/4/19

Tasks:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name | Description | Time | Risk | Assignee | To be completed |
| Fine tune Optaplanner for best results | Modify score change restraints, time spent, and number of solutions | 1 hour | 1 | Alex | 2/9/19 |
| Work on Presentation/Practice Presenting | Make changes suggested by Kapenga and the class | 1 hour | 2 | All | 2/18/19 |
| Add Documentation | Restructure repository to represent new optaplanner solver instead of brute force C program | 1 hour | 3 | Jake | 2/11/19 |
| Create connection between optaplanner and webapp | Create RESTful API for web app to call and trigger optaplanner | 2 hour | 2 | Grant | 2/11/19 |
| Create connection between Optaplanner scheduler and database | Create JDBC connection between scheduler and database to add schedules once they are created | 1 hour | 2 | Alex | 2/11/19 |

Stories:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Description | Time | Risk | To be completed |
| Generate Schedules | Create viable cohort schedules based on parameters | 1 weeks | 1 | 2/11/19 |
| Create Front End/UI | Create a front end usable to WMU advisors | 3 weeks | 2 | 2/25/19 |
| Create Database | Create Database to store requirements and schedules | 2 weeks | 2 | Done |
| Allow adding new criteria with plugin system | Make it easier for people to add ranking criteria | 4 weeks | 4 | As Time Allows |
| Get AWS or WMU Server set up to run project | Work with Dr. Tsang and OIT to decide which is best and get server set up if necessary. | 4 weeks | 2 | 3/1/19 |

Past tasks:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Description | Resolution | Assignee | Completed |
| Add Section limitations to Branch and Bound alg | Add a limit to which sections a cohort can sign up for based on section name in final attempt to use branch and bound | Changes made, but did not improve the performance significantly | Alex | 1/19/19 |
| Confirm meeting time with advisors | Schedule a meeting for the week of 1/21 to discuss progress and get feedback | Met on 1/24 and discussed progress. Plan to meet again next week | Alex | 1/21/19 |
| Final branch and bound attempt | Run the branch and bound with section limits on test server to see if it is viable (Kill after 72 hours) | Ran with little success over previous | Grant | 1/20/19 |
| Get course limitations document from advisor | Still waiting on limitations from Diana | Got document and integrated into course reqs | Jake/Grant | 1/18/19 |
| Optaplanner Research | Do further research on Optaplanner, and figure out how to delegate and integrate it. | Got info and successfully implemented it | Jake/Grant | 1/19/19 |
| Open Source Research | Look for more alternatives to Optaplanner | Found 1 stochastic alternative in C-RAN with hard/soft reqs | Alex/Jake | 1/19/19 |
| Implement OptaPlanner | Write java program to schedule cohorts using optaplanner | After spending significant time troubleshooting, we got the planner to work, generating schedules for all cohorts | All | 1/31/19 |