***Automated Analysis of Selection Test Data***

Project Plan Document (version 1.0)

Project: **Automated Analysis of Selection Test Data**

Date(s): **02/25/2018**

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Document status:  **\_X\_** Draft   \_\_ Proposed  \_\_ Validated  \_\_ Approved

**Time Stamp:**

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| --- | --- |
| **Week** | **Duration** |
| Week 1 | 26th Feb - 4th March |
| Week 2 | 5th March - 11th March |
| Week 3 | 12th March - 18th March |
| **SPRING BREAK** | |
| Week 4 | 26th March - 1st April |
| Week 5 | 2nd April - 8th April |
| Week 6 | 9th April - 15th April |
| Week 7 | 16th April - 22nd April |
| Week 8 | 23rd April - 29th April |
| Week 9 | 30th April - 6th May |
| Week 10 | 7th May - 13th May |

**Task List:**

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| --- | --- | --- |
| **Task No.** | **Task** | **Estimate** |
| **Week 1 (Readying the Web Server)** | | |
| 1. | Install local Apache2 Web server on Ubuntu 17 | 1 day |
| 2. | Install PHP 7 on web server | 1 day |
| 3. | Install MySQL database Server and PHPMyAdmin | 1 day |
| 4. | Create Security configurations and hostnames for the above web server and PHPMyAdmin | 2 days |
| 5. | Test all above installations | 2 days |
| **Week 2 (Setting-up Python)** | | |
| 6. | Install Anaconda and Python | 2 days |
| 7. | Install Python Libraries; Numpy, Sklearn and Scikit | 1 day |
| 8. | Install Rest Api modules for Python | 1 day |
| 9. | Creating environment settings for Python | 1 day |
| 10. | Test all above installations | 2 days |
| **Week 3 (Readying up the Selection Test database)** | | |
| 11. | Import all previous databases of the Selection Test (2014, 2015, 2016 and 2017) | 3 days |
| 12. | Install Composer and Laravel 5.4 | 3 days |
| 13. | Setup basic question viewer | 1 day |
| **Week 4 (Features Extraction and Generation)** | | |
| 14. | Setup basic question viewer | 2 days |
| 15. | Identify the Features and creating new ones for the Difficulty tags | 4 days |
| 16. | Undergo Classifier algorithms study | 1 day |
| **Week 5 (Machine Learning: Classifier Algorithms)** | | |
| 17. | Create csv files using the features identified. | 1 days |
| 18. | Perform Naïve classifier to generate predictive difficulty tagging on Selection Test 2014 data and check for accuracy | 2 days |
| 19. | Use K-Means Clustering on the naïve combination of features and check for accuracy | 2 days |
| 20. | Improve the accuracy using different features combinations | 2 days |
| **Week 6 (Accuracy improvement)** | | |
| 21. | Use Neural Network and other algorithms for improving the accuracy | 4 days |
| 22. | Accuracy comparison of different algos and choose the best one | 1 day |
| 23. | Start creating the Rest Api Modules in JavaScript for enabling web server to communicate with the Machine Learning Algo | 2 days |
| **Week 7 (Front- End Development)1** | | |
| 24. | Develop Login Page, Register Page, and different layouts of other pages | 2 days |
| 25. | Creating communication module for the Rest-Api of the Python | 2 days |
| 26. | Fully develop the Machine Learning page | 2 days |
| 27. | Test | 1 days |
| **Week 8 (Project Validation)** | | |
| 28. | Iteration 1 | 1 day |
| 29. | Improvements | 1 day |
| 30. | Iteration 2 | 1 day |
| 31. | Improvements | 1 day |
| 32. | Iteration 3 – Final | 1 day |
| 33. | Improvements | 1 day |
| **Week 9 (Pulling Things together: Report Creation)** | | |
| 34. | First Draft | 3 days |
| 35. | Iterate | 2 days |
| 36. | Final Report | 2 days |
| **Week 10 (Presentation)** | | |
| 37. | First Draft | 2 days |
| 38. | Iterate | 1 day |
| 39. | Presentation Day | 1 day |

1Note: Web development Task has been allotted only one date on the assumption that it will be started well before the stipulated week.