**Research Project**

**(IT4010)**

**Group Assessment File**

**Project ID** **: TMP-22-206**

**Supervisor: Prof. Samantha Thelijjagoda**

**Project Title:**

|  |
| --- |
| **“AITor” education platform - A personalized student performance analyzer and recommendation system** |

**Group Details:**

|  |  |
| --- | --- |
| **Student ID** | **Student Name** |
| IT19120812 | Liyanage M.L.A.P. |
| IT19120362 | Thammita D.H.M.M.P. |
| IT19138114 | Hirimathugoda U.J. |
| IT19184546 | Liyanage N.L.T.N. |

**Research Project (IT4010)**

**Student Assessment File**

**Project ID** **: TMP-22-206**

**Student ID : IT19120812**

**Student Name : Liyanage M.L.A.P.**

**Research Domain: Computational Linguistics**

**Project Title**

|  |
| --- |
| **“AITor” education platform - A personalized student performance analyzer and recommendation system** |

**Project Subtitle**

|  |
| --- |
| **Building up identification and recommendation of “best learning strategy” of the students** |

**Individual Component Abstract**

|  |
| --- |
| learning strategy is something that has a significant effect on the terminal performance and gradings of a student may or can have. By cause of it, this component will have a focus on identifying the best learning strategy of a student. With the advancement of the technology, the learning strategies has evolved from traditional teacher-student-centered classroom to video, audio, text based and live engagement activities. These strategies have shortened the limitation of practicality. Even though, these are easily accessible, it is difficult to extract the best performance of it, without proper identification of suited strategy of each individual. Since every student is unique in a way, they may have combination of above-mentioned strategies with different percentages of it. This component will identify and predict the best suited strategy/s by providing students, set of pre-defined questioners, set of continuous assessments and facial behavioral analysis. Students will get percentages of each strategy (video, audio, text, live engagement activities) and required resources will be fetched according to it. With the help of facial behavioral analysis, students will further be categorized into bored, engaging, neutral, exited Et al and fine tune the accuracy of the output. |

**Research Project (IT4010)**

**Student Assessment File**

**Project ID : TMP-22-206**

**Student ID : IT19120362**

**Student Name : Thammita D.H.M.M.P**

**Research Domain: Computational Linguistics**

**Project Title**

|  |
| --- |
| **“AITor” education platform - A personalized student performance analyzer and recommendation system** |

**Project Subtitle**

|  |
| --- |
| **Building up “identification and recommendation” algorithm to cater the best suited subject theories to the student in a systemic way.** |

**Individual Component Abstract**

|  |
| --- |
| In considering the main context of the research, it is clear that this research is basically based on identifying the strengths and weaknesses of the students in the context of learning and helping them with overcoming their weaknesses while allowing them to progress in their learning ladder. In focusing on the progress of students, the materials that are using them in their learning process plays a crucial role in achieving the learning progress. Since each and every student shows uniqueness with respect to their learning style/pattern same kinds of learning materials are not suitable for all. Thus, it will add more value to the productivity and effectiveness of learning, if it is possible to recommend learning materials that match with personal learning styles and interests. This component basically deals with recommending learning materials based on personal learning styles, interests, and based on personal learning progress. There this component will mainly collaborate with the monitoring component and with the learning strategy prediction component and by using their output, this component will finetune its material recommendation algorithm to achieve high accuracy in recommending materials that have the ability in increasing an individual’s progress on education. Also as a sub-objective, this will consider the current trends in the specific subject area and will consider it as will in a minor concern in making recommendations. |

**Research Project (IT4010)**

**Student Assessment File**

**Project ID : TMP-22-206**

**Student ID : IT19138114**

**Student Name : Hirimathugoda U.J.**

**Research Domain: Computational Linguistics**

**Project Title**

|  |
| --- |
| **“AITor” education platform - A personalized student performance analyzer and recommendation system** |

**Project Subtitle**

|  |
| --- |
| **Assessments** **based learning progress monitoring and intelligent feedback mechanism** |

**Individual Component Abstract**

|  |
| --- |
| This component is responsible for evaluating and analyzing the student performance and giving a detailed report of students’ skill level and performance while recommending tips to improve their academic results. This will follow a method of content tagging which tag the module content, assessment questions and the learning materials with pre-identified tags like required industry-related skills, content type, effort level, etc. Students will be evaluated by the system along with the learning progress and student answering behavior will be monitored during the assessments.  Based on tags and the performance shown by the student, the system will track the student's skills level and prepare a comparative report.  Also, analyzing assessment result along with the different tags, system will allow to get decision in different perspective to enhance the learning experience of the student. As an example, continuously analyzing student result with respective module content that covered by known learning material types (with the help of tags), it is possible to identify what is the best learning style or material type for the student to learn a particular module content to archive a higher grade. |

**Research Project (IT4010)**

**Student Assessment File**

**Project ID : TMP-22-206**

**Student ID : IT19188546**

**Student Name : Liyanage N.L.T.N.**

**Research Domain: Computational Linguistics**

**Project Title**

|  |
| --- |
| **“AITor” education platform - A personalized student performance analyzer and recommendation system** |

**Project Subtitle**

|  |
| --- |
| **Performance based student skill prediction, career recommendation and overall learner classification.** |

**Individual Component Abstract**

|  |
| --- |
| This component will act as a high-level analyzing and reporting component of the entire system. Also, this component will classify and categorize the students into different groups by relying on the results provided by the above components. Then this component will rate the student based on different skills using scientific measures purposed. Also, this method will connect with external resources and categorize career opportunities based on different types of skills, and then it will recommend the best-suited carrier opportunities according to their skills. Also, this component will have the ability to identify the current trends of different subject areas and while feedbacking the recommendation component to suggest materials that mostly align with current trends in the subject area. This skill-based career recommendation approach will allow educational institutes to focus on gaps between the job market and skill levels of their students and to align their syllabuses to match with opportunities in the current job market. |