**VISHWAKARMA INSTITUTE OF INFORMATION TECHNOLOGY, PUNE**

**COMPUTER ENGINEERING DEPARTMENT**

**APRIL-MAY 2018**

**Synopsis**

****

**Group number: 10**

GroupMembers :

1.Bhavik Nahar

2. Rakif Momin

3.Rishab Parmar

4. Shubham Pawar

Email-ID :

1. [bhaviknahar123@gmail.com](mailto:bhaviknahar123@gmail.com)
2. [rakifmomin97@gmail.com](mailto:rakifmomin97@gmail.com)
3. [parmar.rishab@gmail.com](mailto:parmar.rishab@gmail.com)
4. shubham.pawar0151@gmail.com

Mobile no :

1. 8698685296
2. 9860283787
3. 9975572059
4. 8237776199

**Title :**

Education for Dyslexic students using Virtual Reality

**Objective :**

The system, “Education for Dyslexic students using Virtual Reality”, is a web based application whichwould provide a platform for people suffering with dyslexia where they can learn core fundamentals using visual representation. This platform can be accessed anytime anywhere by the concerned students.

**Abstract :**

The system, “Education for Dyslexic students using Virtual Reality”, is a web based application which revolves around two focal points, namely, Teaching and Virtual Reality. The application could be easily accessible from any browsers supporting virtual reality.The system would provide different courses, using which students can exploit different aspects of learning. Different courses include shapes, sizes, color, spatial relations. Additionally, tests and quizzes would be conducted to evaluate the progress of students.

**Briefs about Contents:**

1. **Introduction:**

The proposed system is basically being developed to support visual learning and will be accessible anywhere and anytime by the students. It will provide an independent learning platform for the students where there will not be any need for an external trainer always present for supporting the student.

1. **Technical Details :**

This system will consist of a web application which will present the UI to the user. All the queries given by the human expert will be parsed by the Natural Language Processing (NLP) engine which will be processed on the server and the result of the query will be rendered on the screen. The functionalities such as avatar interaction, dynamic scene generation, quizzes and test will be provided in the UI developed in A-Frame virtual reality framework and all the backend processing will be carried out in the Django framework. The NLP part will be performed using the ‘NLTK’ library which will be required for processing the user query and perform operations like tokenization, removal of stop words, stemming and POS-Tagging.

1. **Working :**

The student when present in the virtual environment will have multiple options to choose from, for example course, test, quiz and avatar interaction. When the student selects the course then he will be brought to a page where there would be multiple courses from which he could choose one. The course will provide interactive learning to the students so that they can master their core fundamentals. When the student chooses tests and quizzes he will be tested on the topics in which he has completed courses in. The avatar interaction part provides the student with an animated avatar where the student can command the avatar to perform multiple actions and the avatar performs those actions.

1. **Applications:**

The major application of this system is for providing portable and independent learning to platform for students suffering from dyslexia.

**References/Bibliography:**

1. AM Rahman, Abdullah Al Mamun, Alma Islam , “Programming challenges of Chatbot: Current and Future Prospective” ,2017
2. Bhavika R. Ranoliya, Nidhi Raghuwanshi and Sanjay Singh , ” Chatbot for University Related FAQs”,2017
3. W.A.U.Y.S. Wickramasinghe, P.S.R.S. De Saram, C.P. Linayage , “Virtual Reality Markup Framework for Generating Interactive Indoor Environment”
4. Katerina Kalyvioti, Tassos A. Mikropoulos ,” Virtual Environments and Dyslexia: A literature review”,2013
5. Vinit Sathe,Piyush Gupta and Karan Kaushik ,Suvarna Bhat,Sachin Deshpande , “Virtual Reality Websites(VR WEB)”,2017
6. Priyanka Jain and Hemant Darbari , Virendrakumar C. Bhavsar ,” Spatial Intelligence from Hindi Language Text for Scene Generation”,2017
7. http://niepid.nic.in/Functional%20Acadamics%20For%20Students.pdf

This is the link for the book “Functional Academics for Students with Mental Retardation.”