

Acquisition of Skills via Power of Connectedness in Augmented Virtuality

Shaikh Mohiboddin Amanoddin¹ Khan Israr Ahmed Ali Husain² Ansari Mohd Shakeel Laeeque Ahmed³ Shaikh Abdul Karim Abdul Rashid⁴ Prof. Irfan Jamkhandikar⁵

^{1,2,3,4}Student ⁵Guide

^{1,2,3,4,5}Anjuman-I-Islam's Kalsekar Technical Campus, New-Panvel, Raigad, Maharashtra, India

Abstract— Whether a greater percentage of the young population in India would lead to encashing of demographic dividend or prove to be a demographic disaster?[1] The risk of demographic disaster can result in long-term failure of the country. In order to eliminate this risk, India needs to produce more skillful young individuals. This research paper explains how we can produce more developed human capital with the help of Technology. The developed human capital is the country's economic and nation's development basis.[2] Social connectedness can be easily achieved in today's world with the help of various social media platforms like WhatsApp, and Facebook, YouTube. But, there is a huge lack of connectedness on the college campuses. This paper also explains how we can promote connectedness on college campuses using Augmented Virtuality.

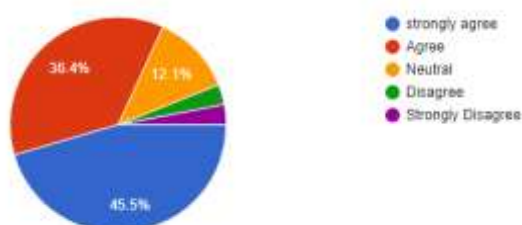
Keywords: Connectedness, Augmented Virtuality, Social Media, College campus, Human Capital

I. INTRODUCTION

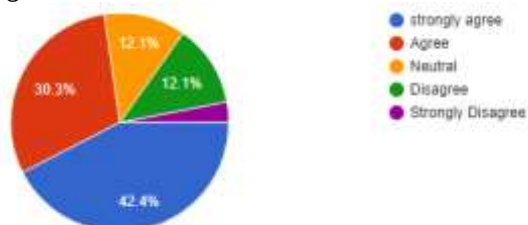
This paper focuses on connecting all students on campus on the basis of their skills irrespective of their branches and streams so that they can collaborate in order to acquire a skill or work on an idea.

We have conducted a survey in various colleges in India, and we found these results according to the questions in the survey:

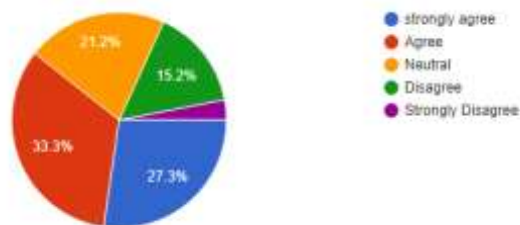
Do you feel that your education system does not focus more on skills?



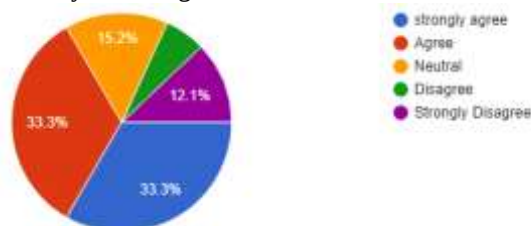
Do you feel that there is a lack of Skill Culture in your College?



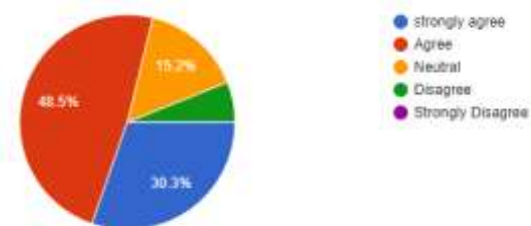
Do you find it difficult to connect with like-minded people in college?



Do you feel: there is a lack of interaction between Juniors and Seniors in your college?



Do you feel a need to communicate with your college alumni?



Most of the above problems can be solved by connecting students on the single platform[4].

II. OBJECTIVE

- To implement the culture of Skill-based education parallelly with an existing conventional education system
- To create an environment where like-minded people can connect and communicate to acquire a skill or execute an idea. [3]
- To implement a Nifty Inter-Class Peer Learning Model on campus.
- To promote an Interdisciplinary problem-solving approach by connecting students from different disciplines.

III. SOLUTION

This problem can be solved by building Mobile as well as Web Applications. The mobile app will be used by Students, staff, and Administrators in order to manage and access information present on the platform. The Web application will be used to manage Users of the application and the dashboard on the web app will help to visualize the skill-related data of the campus students. Both applications (Mobile and Web) will be connected with GraphQL and Flask server respectively. The Mobile app can be integrated with

features where students can interact with each other in 3D. They could schedule the meeting, presentation, etc in the 3D world.

IV. INNOVATIVENESS OF PROJECT

Users will be able to access the basic functionality along with Augmented Virtuality.

Such as Profiling (Create profile), Posting (Feed section), Messaging (Chat), Analytics, Communities (Chat Groups), Connected Campus (Connect with Students, Staff, Alumni).

A. The Application will also enable the users:

- To schedule the meeting on a virtual 3d Campus.
- To do a presentation in 3D.
- Created their Virtual 3D Avatar
- To visualize and interact with the 3D Modal of the Institute in Real-time for the virtual tour
- To View the campus in the Virtual Reality box

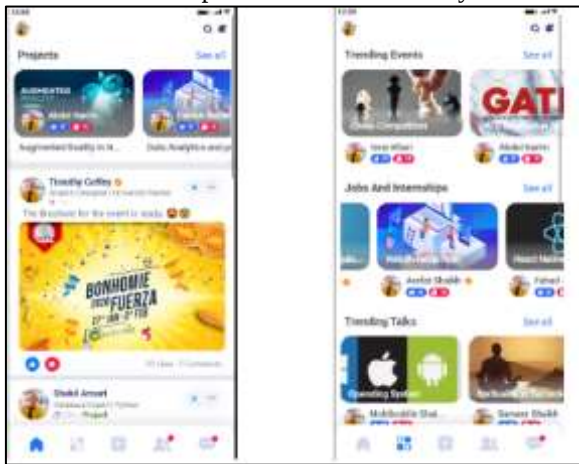


Fig. 1: Some app screens



Fig. 2: Campus in 3D



Fig. 3: VR feature in-app

V. IMPLEMENTATION

The Technology used will be.

- ReactJS
- Flutter
- GraphQL
- Flask
- PostgreSQL
- Firebase
- Blender
- 3D Modeling
- Web Sockets
- Flutter Unity Widget
- Photon
- Redis
- Celery

The Flutter mobile app will be connected to GraphQL and Web is to Flask Server. Further, both servers will be connected to Databases (Firebase for media storage and PostgreSQL for relational Queries). The 3D experienced can be done using the Unity application running in the Flutter Unity Widget. This Widget will be powered by Photon. Photon Real-time is our base layer for multiplayer games and higher-level network solutions. It solves problems like matchmaking and fast communication with a scalable approach.

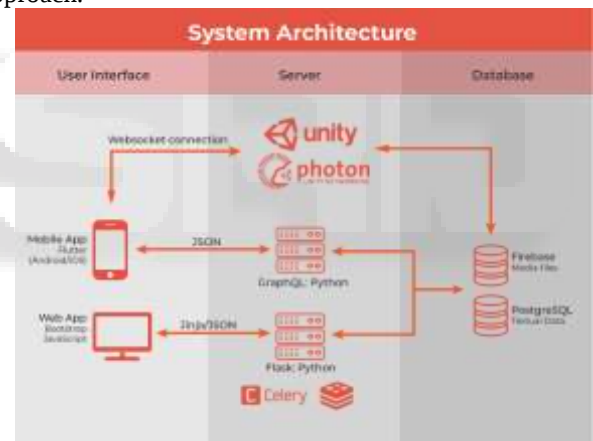


Fig. 5: System Architecture

VI. CONCLUSION

This system is meant to establish problem-based learning culture on the college campus by connecting all the students of the college campus based on their skills irrespective of their branches and department.

REFERENCES

- [1] Naik, Kasturi, Bobade Anita, "'YOUTH IN INDIA: DEMOGRAPHIC DIVIDEND OR DEMOGRAPHIC DISASTER'", <https://www.researchgate.net/publication/316082015>, September 2016
- [2] Jelena Lonska, Iveta Mietule, "The impact of human capital development on the economic and social development of a country: empirical study", Environment Technology Resources Proceedings of the International Scientific and Practical Conference · June 2015

- [3] Jason MacLeod, Harrison Hao Yang , "Connected Classroom Climate in Higher Education: A Scoping Review", International Symposium on Educational Technology, DOI 10.1109
- [4] Derek A. Jorgenson, Laura C. Farrell, Julie L. Fudge, Andrew Pritchard, "College Connectedness: The Student Perspective", Journal of the Scholarship of Teaching and Learning, Vol. 18, No. 1, January 2018, pp. 75-95. doi: 10.14434/josotl.v18i1.22371

