

# Providing accessible and equitable education through MS Teams in COVID-19

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## Abstract

The outbreak of the COVID-19 pandemic has changed higher education in different ways, including the shift from face-to-face to online teaching, requiring a change from physical academic activities to technological replacements. Education needed to be accessible, equitable and sustainable. In light of these requirements, a digital resource on MS Teams was designed for team interaction in the subject 'Internet of Things' being offered through the department of Computer Science and Software engineering at the University of Western Australia.

The platform provided insight into the students' collaborations and discussions, which was not earlier available to the unit coordinator. The unit coordinator, with access to the private group channels, saw increased interaction, collaboration and communication among group members. The data shows that students began with low interaction, indicating that they took some time to familiarise themselves with the technology, but later went on to have high levels of interaction. The gathered data depicts high levels of engagement and collaboration among the students. Some interesting observations were made, including the positive impact that responding to student comments using emojis had on student interactions. Furthermore, it was quicker and easier for the unit coordinator to reply to student concerns, compared to email.

## Objectives

- Providing accessible and equitable education in pandemic
- To induce social constructivism in the students, supporting their active engagement by facilitating them work collaboratively on the solution of real life problems.
- Further, the design was in line with Technological Pedagogical Content Knowledge (TPACK), using technology to teach concepts to students with enhanced student learning experience.

## Desired Outcome

Accessible and Equitable Education, Creativity, Critical Thinking, Digital Literacy, Collaboration, Leadership and Communication skills

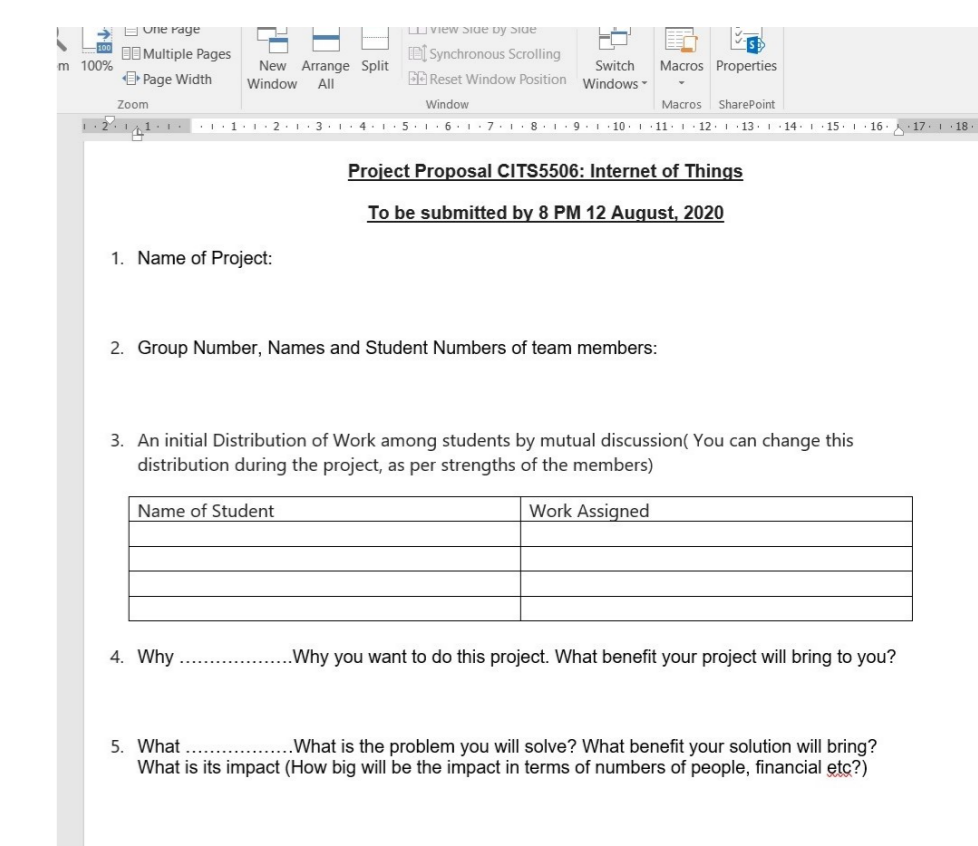
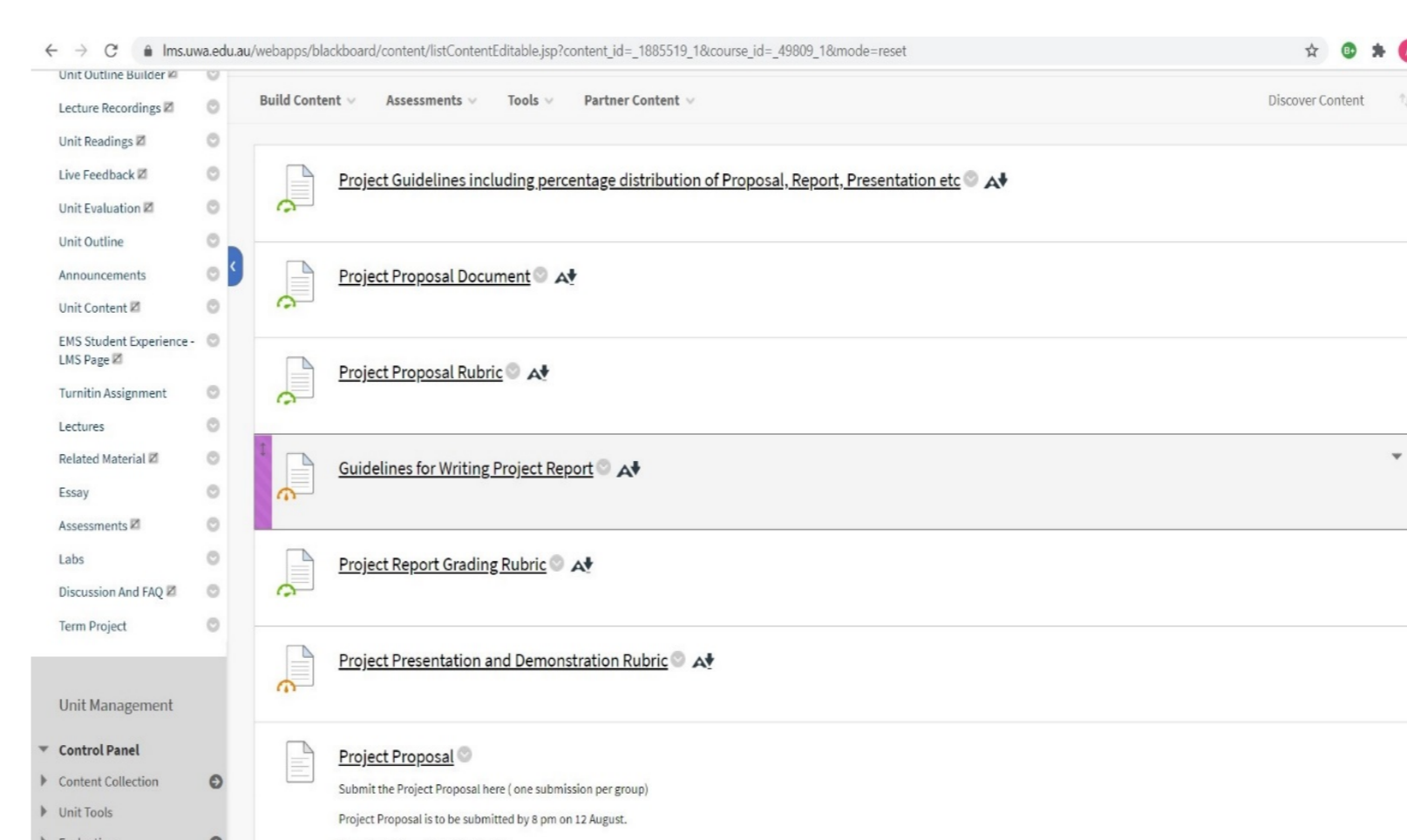
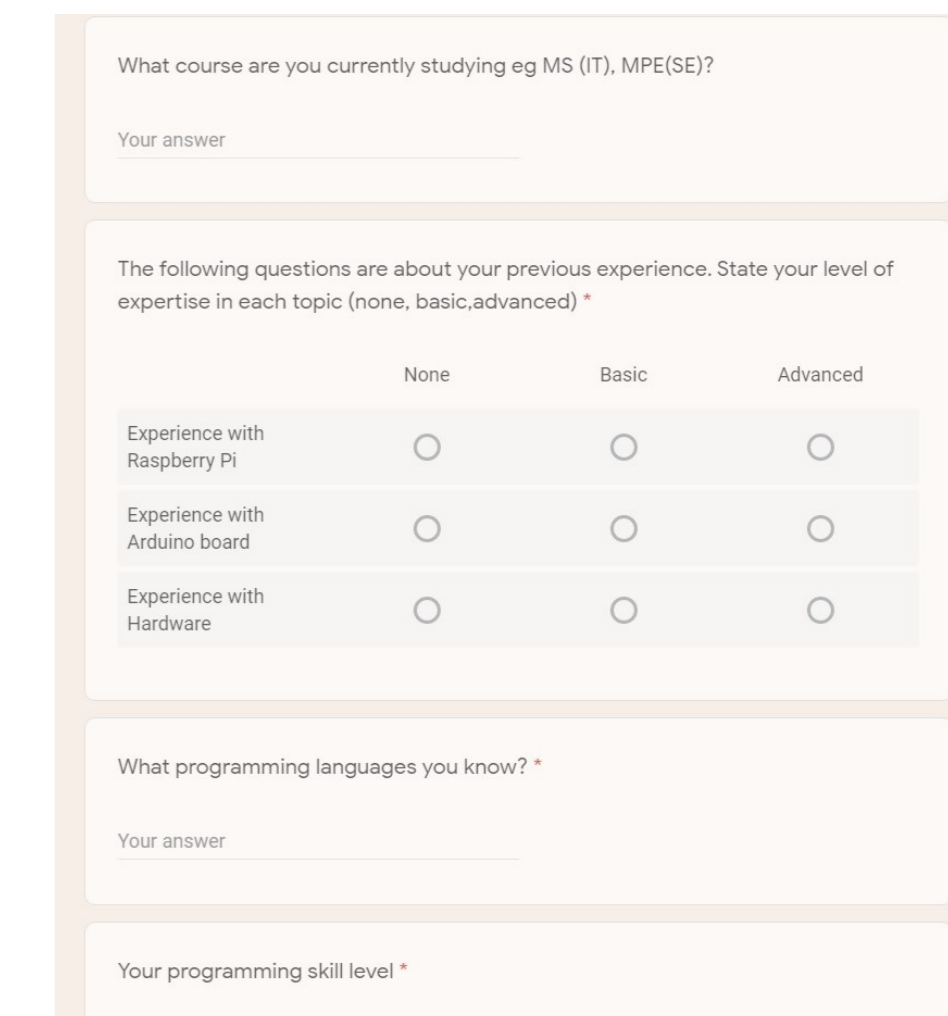
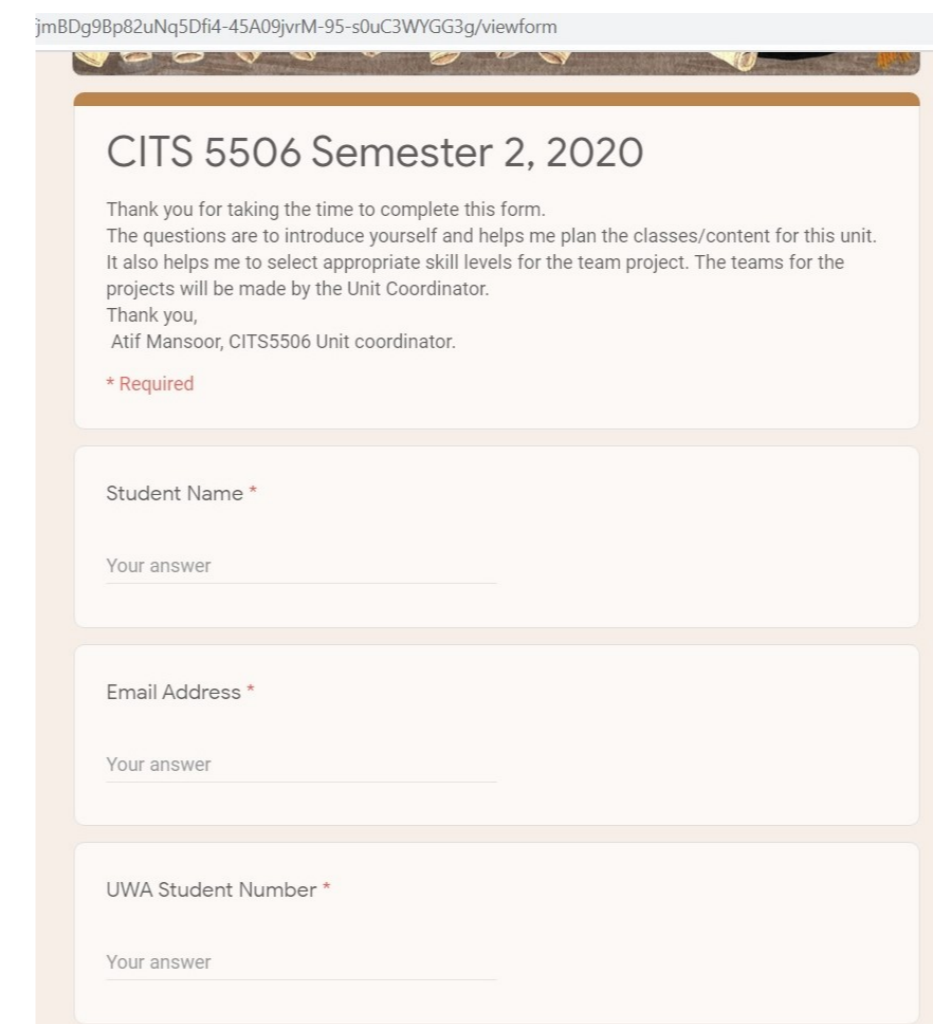
## Context

- IoT is combination of different specialities like Electrical Engineering, Sensor Technologies, Telecommunication and Computer Science.
- It encompasses both hardware and software components. As a postgraduate unit, students come from different academic specialities, backgrounds, ages, nationalities etc
- Such diverse cohort vary significantly in their programming skill and hardware knowledge required for successful completion of this unit.
- During Covid-19 pandemic, aim was to provide accessible and equitable education.

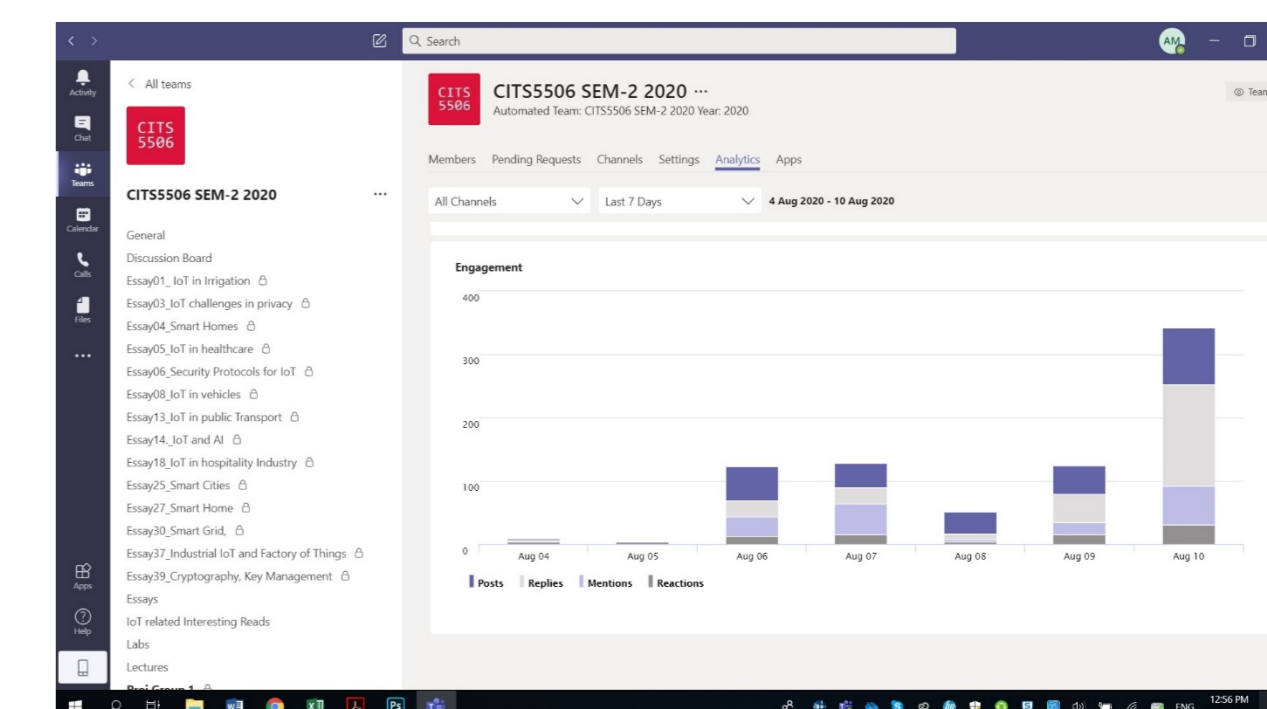
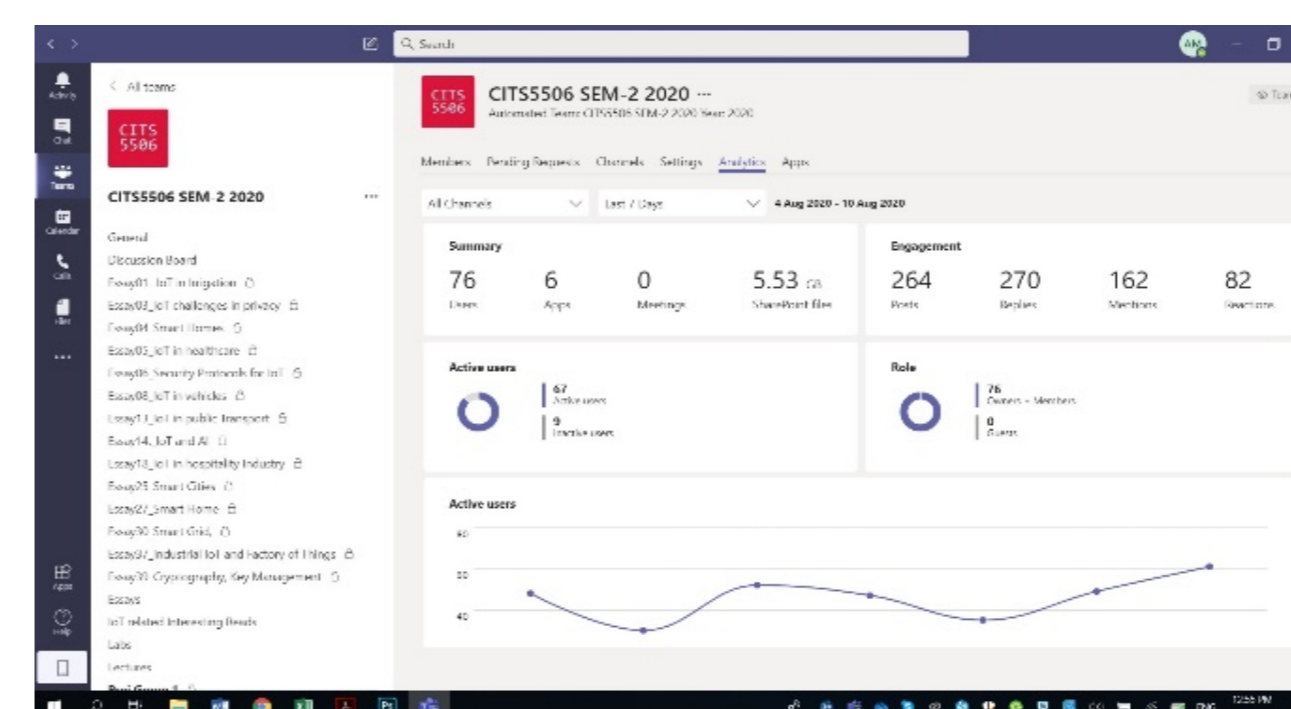
## Approach

- Survey Submission by students
- Division into four members' teams for term project, with balanced
  - technical knowledge of software
  - hardware knowledge
  - ethnic diversity
- Private channel for each group at MS teams
- "Team Accountability Document for the project", whereby each team member needs to state explicitly what he/she contributed during the week.
- List of topics of realistic problems given.
- Students can propose their own topics.
- Project Proposal document
- Document reason for the choice of that particular project, problem statement, proposed solution and size of its impact, detail of distribution of the work among members etc.
- As some students conveyed their difficulty in using MS Teams, the guidelines were also uploaded at LMS (Learning Management System) in addition to MS Teams

## Approach



## Conclusion



- The analytics of posts, interaction, replies for seven days from 04 August, 2020 to 10 August 2020 ( 264 posts, 270 replies, 162 mentions, 82 Reactions) shows increased interaction, collaboration and communication among group members.
- The designed activity familiarized students with problem based learning, critical thinking, active engagement, enhancing digital literacy, promoting interaction, cooperation and collaboration. It further led to the provision of accessible and equitable education.
- Some interesting observations include that responding to student comments using emojis have a positive impact on students' interactions, and allow to reply to student concerns more quickly and easily than via email.



## References

- Foundation for Young Australians, (2017, July) The New Work Order Report Series. [https://www.fya.org.au/wp-content/uploads/2017/07/NWO\\_ReportSeriesSummary-1.pdf](https://www.fya.org.au/wp-content/uploads/2017/07/NWO_ReportSeriesSummary-1.pdf)
- Herman, P. C. (2020). Online learning is not the future. June 10, 2020. Inside Higher Ed <https://www.insidehighered.com/digital-learning/views/2020/06/10/onlinelearning-not-future-higher-education-opinion>.
- Krishnamurthy, S. (2020). The future of business education: a commentary in the shadow of the Covid-19 pandemic. J. Bus. Res. 117, 1–5. doi: 10.1016/j.jbusres.2020.05.034
- Mishra, P., & Koehler, M. J. (2006). Technological Pedagogical Content Knowledge: A new framework for teacher knowledge. Teachers College Record. 108(6), 1017-1054
- Tesar, M. (2020). Towards a post-Covid-19 "New Normality?": Physical and social distancing, the move to online and higher education. Policy Future in Education, 18(5), 556–559.
- UWA Handbook (2020), CITS 5506, Internet of Things, <https://handbooks.uwa.edu.au/unitdetails?code=CITS5506>
- Vygotsky, L (1978). Mind in Society. London: Harvard University Press

