Engineering Tripos Part IIA Project, GM2: Technology for the Poorest Billion, 2023-24

Leader

Dr A J Kabla [1]

Timing and Structure

Thursdays 11-1pm, and Mondays 9-11am plus afternoons. This project also involves a seminar towards the end of Lent to present the context and start discussing project opportunities.

Aims

The aims of the course are to:

- To introduce students to the challenges of designing and innovating with technology in the context of international development.
- To provide students with opportunities to improve their hardware and software rapid prototyping skills.
- To develop students' skills with project development, open collaborations and documentations writing.

Content

The IIA project *Technology for the poorest billion* allows students to work on real-world engineering related projects that are proposed by partner organisations and/or research labs, with the objective to address humanitarian challenges and contribute to international development.

Students will be offered to contribute, as a team, to one of the selected projects. They will work with great autonomy with the partner to propose, implement and test a solution to their problem. The project assessment is aligned with this overarching objective. Students will have to determine what they feel they can achieve within the duration of the project, and propose a work plan by the end of the first week.
Then students will have another two weeks to work on implementing solutions, deliver an interim presentation, and finalise their output (prototype and/or source code, handover notes, documentation, dissemination plan) in the last week. Feedback will be given during regular progress meetings with the project coordinators.

Students will be working in the Dyson Centre where possible, and a limited budget will be available to them to create their prototype. Principles of interdisciplinarity, creativity, openness and collaboration are key to successful international development projects. Students from all areas of engineering are welcome to join this team-based activity where complementary skills are an asset.

The project is developed and offered in collaboration with the Centre for Global Equality [2].

Centre for Global Equality

ACTIVITIES

1. Around the end of Lent - 2h afternoon session (date/time tbc) : Lara Allen, Director of the Centre for Global Equality, will present some of the most pressing challenges faced by the poorest billion on the planet, and cover a number of success stories, but also highlight failures and works in progress.

2. Start of IIA project period - allotment of team project : to be determined with partners.

3. Project Week 1: Developing a proposal including costing. Identifying team strengths and weaknesses, setting up work-plan and roles for the project development.

4. Week 2/3: Early prototype development.

5. Week 3: Interim presentation, preliminary feedback from judging panel.

6. Week 3/4: Development of final prototype, project report, online documentation et video demonstration.

Coursework

Coursework	Due date	Marks
Proposal/team presentation/Budget description	Thu project week 2	15 (group)
Interim presentation	~ Mon project week 3	20 (individual)
Presentations	~ Tue project week 4	15 (individual)
Final Report + Online Submissions	Thu project week 5, 4pm	15 (individual) + 15 (group)

Examination Guidelines

Please refer to Form & conduct of the examinations [3].

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