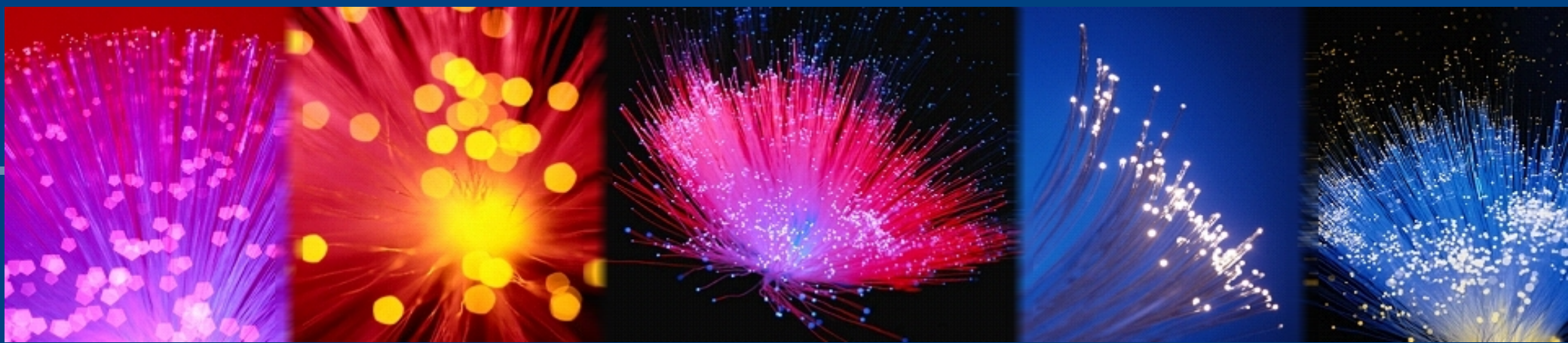


Year 2 Short Semester Design & Build Project

**Summer
2018**



Andy Watson

Date: 9th July 2018

Year 2 Design & Build Project

Introduction

- Aims and Motivation
- Information
- Specification
- Deliverable items and grading
- Design
- Labs and further information

Year 2 Design & Build Project

Aim

- Allow you to solve problems for yourselves
- Allow you to use your knowledge in practice
- Experience working in a group
- Work on all aspects of a design project

Motivation

- IET accreditation
- Encourage initiative and innovation

Year 2 D&B Project: Information

Groupings:

- 10/11 students per group (already allocated)
- Mixed E-Commerce, Telecoms and IoT students (in ratio 3:5:3)
- Each group forms a small "design company"
- Competition: Prizes for top three groups
- Budget: 500 RMB per group
- Claims made to Mr GUO Kai (must provide Fa Piao)

Year 2 D&B Project: Information

- Dates
 - Summer session: 9th July – 20th July 2018
- Submission deadline
 - 19th September 2018 (by midnight)
 - Upload your (i) report; and (ii) user manual (in Microsoft Word or PDF format) to School's FTP server (to be announced)
- Presentation & Demonstration
 - 26th September 2018

Year 2 D&B Project: Specification

This year's task:

Design and build a smart tracking robot

- Basic requirements:
 - The robot can automatically track and follow a target within a certain distance, and can display the tracking distance and time in real time.
- Optional functions:
 - The criteria of tracking (e.g. distance, light intensity, temperature) can be configured;
 - Any other functions proposed by the students.

Year 2 D&B Project: Specification

Optional features / Extensions:

Your product must have additional features or functions designed by your group that make your product distinctive.....that is, different from other groups' products.

Year 2 D&B Project: Deliverables

- Hardware product (i.e. the robot)
- Company website
- Marketing advertisement
 - Either a short video (30 seconds maximum)
 - Or a poster
- User manual
- Project Report

Demonstration Evening:

Show case your hardware, website and other materials to the judges.

Year 2 D&B Project: Deliverables

Hardware product (i.e. the robot)

- A prototype of your device
- Consider variety of functionalities
- Consider ease of use, maintainability, etc
- Consider case / packaging

This is the Telecoms students' product.

Year 2 D&B Project: Deliverables

Company Website

- Website coded with up-to-date web technologies like HTML, Javascript, CSS, etc.
- Learn how to code yourself
 - avoid Adobe Flash, Dreamweaver, etc.
- Provide information about product and company
- Consider presentation and ease of use

This is the E-Commerce & IoT students' product.

Year 2 D&B Project: Deliverables

Marketing Advertisement (Video or Poster)

- A short video or concise poster (in English) that advertise your product
- Explain why your product is good
- Show off your product's features
- Try to sell the product to the viewer

This is the product from the whole team!

Year 2 D&B Project: Deliverables

User Manual

- Explain how to use, maintain and troubleshoot your product
- Pay attention to
 - Layout
 - Clarity
 - Use of English language

This is the product from the whole team!

Year 2 D&B Project: Deliverables

Project Report

- Explain the product design process
- Explain the design choices
- Planning and management
- Minutes for team meetings
- Time plans (e.g. project time line, Gantt chart)

This is the product from the whole team!

About Demonstration Evening

- Your company attends a "trade fair".
 - So you will see what other groups have produced.
- Try to sell your company and your product to the judges by:
 - Demonstrating your hardware product
 - Demonstrating your company software
 - Showing your marketing advertisement
- You will be asked questions about your company and your product.

All members have to attend this demonstration.

Year 2 D&B Project: Grading

What are we looking for?

- Good design
- Good planning (time/money)
- Innovation
- Good marketing
- Good documentation
- Good groupwork/effective company structure

Year 2 D&B Project

What do we mean by "design"?

- Not just circuitry/software...
- Consider all aspects of the product:
 - Aesthetics (“how it looks”)
 - Ease-of-use
 - Maintainability/Durability/etc.
 - Cost



Year 2 D&B Project

On design ...

- Functionalities? Materials? Appearance?
- How will the user interact with your device/product?
 - e.g. controls and layout of controls
- What features differentiate your product from other groups?

Further Information on QMPlus

<https://qmplus.qmul.ac.uk/course/view.php?id=7939>

Laboratory notes, project handbook

Design & Build Hack Week in London

- 10 students will be selected to join the Hack Week in London in Jan/Feb 2019.
- JP will sponsor flights and accommodation.
- Work with London students and learn from each other in teams of 4 through the week
- Be creative, have fun and make friends!
- **More info will follow in Oct 2018.**

THANK YOU

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