

Week 1:

Biology:

- Literature research
- Decided on an experimental outline

Designing the device:

- Read up on past iGEM team devices, brainstormed and concluded that we would like to design a cheap and DIY lab equipment.

Wiki and Media Design:

- The iGEM Sheffield 2017 logo has been designed

Engineering:

- Researched on what electrical components to use for our device

Week 2:

Biology:

- Synthetic genes and primers required have been ordered

Designing the device:

- We have decided on designing and building a plate reader
- Prepared a list of questions for academics that we were going to meet regarding our device

Engineering:

- Looked at Photo-Voltaic Models on MATLAB and Simulink

Wiki and Media Design:

- Establishing a template for the Wiki and deciding on the main sections

Week 3:

Biology:

- Talked to many different medical Practitioners, and since we want our device to have many applications we have decided upon tackling the issue of AMR. Hospitals and labs are in need of such easy off the shelf device.

Designing the device:

- Concluded on making a novel form of a plate reader

Engineering:

- We have 3D printed initial design of photodiode array

Wiki and Media Design:

- Worked out how to upload css and javascript pages to the website

Policies and Practises:

- Had a Skype meeting with Cyprus, Sri Lanka and Poland diagnostic microbiology labs

Week 4:

Biology:

- We have genetically engineered antibiotic strains of *E.coli* to test them in classical plate readers and have a concrete idea of what to expect our device would do

Engineering:

- Looked at other projects on the hardware track
- Ordered LEDs

Policies and Practises:

- Had meeting with the Royal Hallamshire Hospital and a diagnostics company called Prevent X

Wiki and Media Design:

- Decided on pastel colours for the background to have a minimalistic design

Week 5:

Biology:

- Transformed Biobricks

Engineering:

- First construction attempt was made
- Researched for photodiode sensitivity
- Considering of using a 96 well plate instead of a 48

Wiki and Media Design:

- Worked out how to upload css and javascript pages to the website

Week 6:

Biology:

- Growth curves of wild type *E.coli* and antibiotic resistant strains have been carried out; cells have been grown in LB media

Engineering:

- Tested our filters
- Performed our first experiment with the device and noticed signal-background noise problem due to external light source, solved this problem by building a black case for our device

- Oversaturation of photodiodes due to too bright light source. Therefore, connected a potentiometer to the LEDs to vary the voltage across and thus change their brightness.

Wiki and Media Design:

- The poster for the iGEM UK Meetup (London) has been designed

Week 7-13:

Biology:

- Well plate reading experiments were performed and statistically analysed

Policies and Practices:

- Presentation in SURE scheme

Engineering:

- Light leakage experiments were performed
- Further tests for sensitivity
- Calibration experiments and analysis of growth curves
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Wiki and Media Design:

- Deciding which team member is writing each section
- Writing-up Wiki content

Week 14-22:

Policies and Practices:

- Presentation in UCL, Westminster and Warwick Universities during UK-iGEM meetup
- Presentation in the University of Sheffield departments of Bioengineering, Biomedical Sciences, Molecular Biology and Biotechnology.
- Outreach event: Introduced to high school students why to get into STEM
- We have also performed an experiment regarding our collaboration with Nottingham University iGEM team.

Wiki and Media Design:

- Organising the content and making sure that we have all the stuff for it. Redesigned some icons for the website and the end.