

# M.E.P. (Microwave Empowerment Project)

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## What it is & purpose:

The microwave nowadays is falling behind the era of artificial intelligence, an update is called for it to better serve humanity's daily needs. Our M.E.P. is therefore a project that focuses on empowering existing microwave designs with machine learning to attain a certain level of intelligence and improve life convenience.

## Technology Involved:

Hardware	Software
1. Arduino (kit)	1. Arduino IDE
2. Micro load cell	2. Django
3. High resolution camera	3. Google SDK (Vision API & Cloud Storage & AppEngine)
4. WiFi shield/Ethernet	4. MongoDB
5. LCD display	5. Github
6. ... (more will be added if in need)	6. C & Python (programming language)
	7. ... (more will be added if in need)

## Prototype Plan:

### <Experimental Prototype>

1. Testing the validity of using Google Vision to identify objects and learning about implementation of API call
2. Learning basic and advanced practical circuit knowledge
3. Learning how to set up backend server to host a REST API

## Schedule & assignments:

- 12 October 2017 – Proposal submission
- 13~ 22 October 2017 – Software establishment (Google Vision API & Database)
- 23~25 October 2017 – Hardware establishment (Camera)
- 26 October 2017 – Prototype Due
- 27 October ~19 November 2017 – Building the rest (WiFi & Arduino & Load cell & LCD-extended functions)
- 20 ~ 22 November 2017 – Practice for Demo
- 23 November 2017 – Project Demo

## Possible obstacles:

1. Authentication for Google API call
2. WiFi connection and document transmission on Arduino
3. Database design – Efficiency
4. Unfamiliarity to Arduino
5. Adjacent file processing

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