EN2560 - Internet of Things Design and Competition

Course Project Proposal - Group 12

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Problem intended to be solved:

Lack of platforms to find news of any country of user sorted categories, weather status of user interested areas and notified about them from same platform.

Conceptual Overview:

Searching news of user interested categories and weather status of any locations and get notified about them.

Data Source that will be used:

- NewsApi - https://newsapi.org/docs/get-started
- Openweather Api - https://openweathermap.org/guide

Planned usage of each of the components in Figure 1:

- Open Source API: Getting the required data on News and Weather by HTTP request
- Node-red : Process the data. (filter out required data and publish it in MQTT broker.
- MQTT Broker : Establish connection between node-red and NodeMCU and act as intermediate data source.
- Node MCU : Subscribe the required topic and get the data that user requests. Publish information about user preference to MQTT broker.
- Mobile (Client) : Receiving the news notification and choose categories that user want to receive news , by maintaining the connection with Node MCU through HTTP.

System functions and features:

Functions

- Searching news of any country of user interested categories.
- Getting notifications about high priority news according to the user.
  Ex: https://newsapi.org/v2/everything?q=tesla&from=2021-03-22&sortBy=publishedAt&apiKey=cdc22b3188ec407483da0bc7f7169d43

  By setting HTTP request like above user may receive news about Tesla that was published after 2021-03-22. Customizing the URL according to user preference will be done in Node-red

- Searching weather status of user interested areas.
- Getting notifications about extreme weather in user interested location.

Extra Features

- User can get the sources of news. (BBC, CNBC, CBC…etc)
- User will receive direct link to the original webpage that news was published.