This prototype is aim to explore the feasibility of some requirement for CPIS Backend, CPIS Frontend of XTech project.

MapBox background:

1. A Mapbox contains 3 type of data
   1. **Mapbox data** is the baselayer that provided, can be road network, satellite or terrain.
   2. **Your data** iselements and styles that edit and save on local data file or under user’s MapBox account projects.
   3. **Local data** is data that only to display on screen without a need to upload to MapBox server.

Refer to <https://www.mapbox.com/guides/how-mapbox-works/>

The expected outcome of this prototype should be able to verify whether using C#, HTML5, JavaScript and integrate with MapBox can satisfy the following requirement.

1. Load and Display existing Map

Acceptance Criteria: click a button to select a file that contains customized map info, the map shall be displayed.

Result:

After creating map on MapBox Editor, using HTML is able to display created map with added elements on browser.

1. Edit and save Map

Acceptance Criteria:

* 1. Add, modify, delete route
  2. Add, modify, delete legend
  3. Add, modify, delete overlay
  4. Pin, unpin markers
  5. Click a button to save the file with map info to local driver

Result:

* Using free desktop application Mapbox Studio Classic enables user to edit the style of Map.
* Using web application MapBox Editor, enables user to edit and save Map.
* After creating map on MapBox Editor, using HTML is able to display created map with edit elements on browser.

1. Overlay select and display

Acceptance Criteria:

* 1. Show different overlay and allow selection
  2. On selection, only selected overlay should be displayed.

1. Retrieve data from server to achieve real-time monitoring

Acceptance Criteria: The server should be able to keep pushing data to browser with a certain interval. After receiving the data, the browser should display it immediately.

Result:

Using Fleck library is able to build web-socket between browser and web server to achieve real-time communication.

1. Mobile App User Real-time Location tracking

Acceptance Criteria: According to the user geo location info sent from server, the map on browser should reflect its location change.

1. Click the location of Mobile App User on map, his information shall be displayed

Acceptance Criteria: Specified user’s id should be printed on console.

1. Highlight Emergence request, blink

Acceptance Criteria: Click a button, specified user’s location point should begin blinking. Click another button to remove the blink.