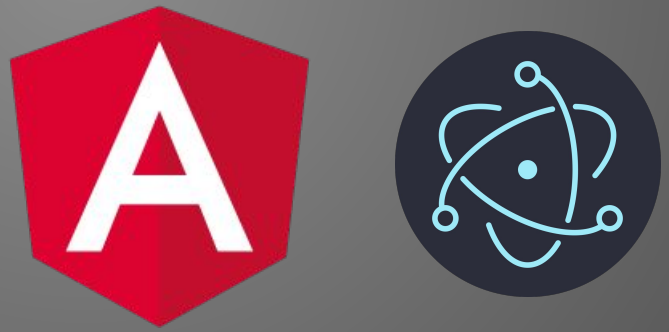
Angular and Electron - More than just a desktop app

Aristeidis Bampakos



Plex.Earth

Code.Hub

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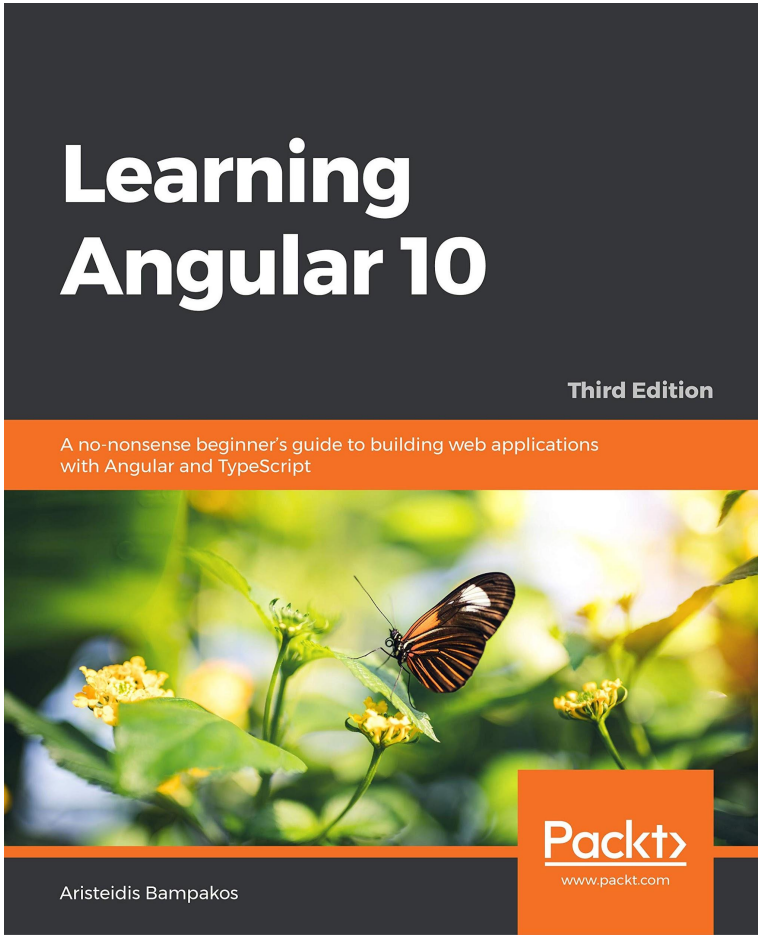
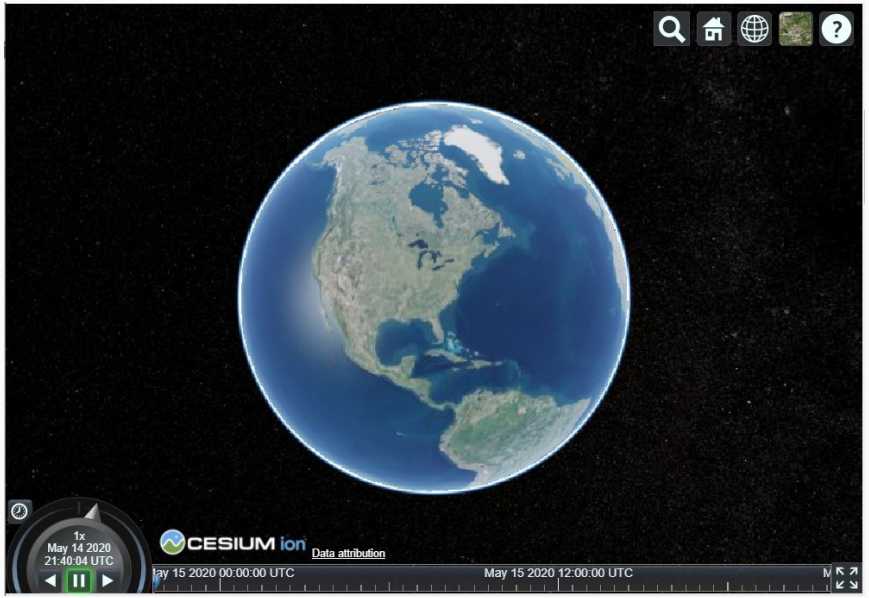


https://www.amazon.com/Learning-Angular-no-nonsense-applications-TypeScript/dp/1839210664

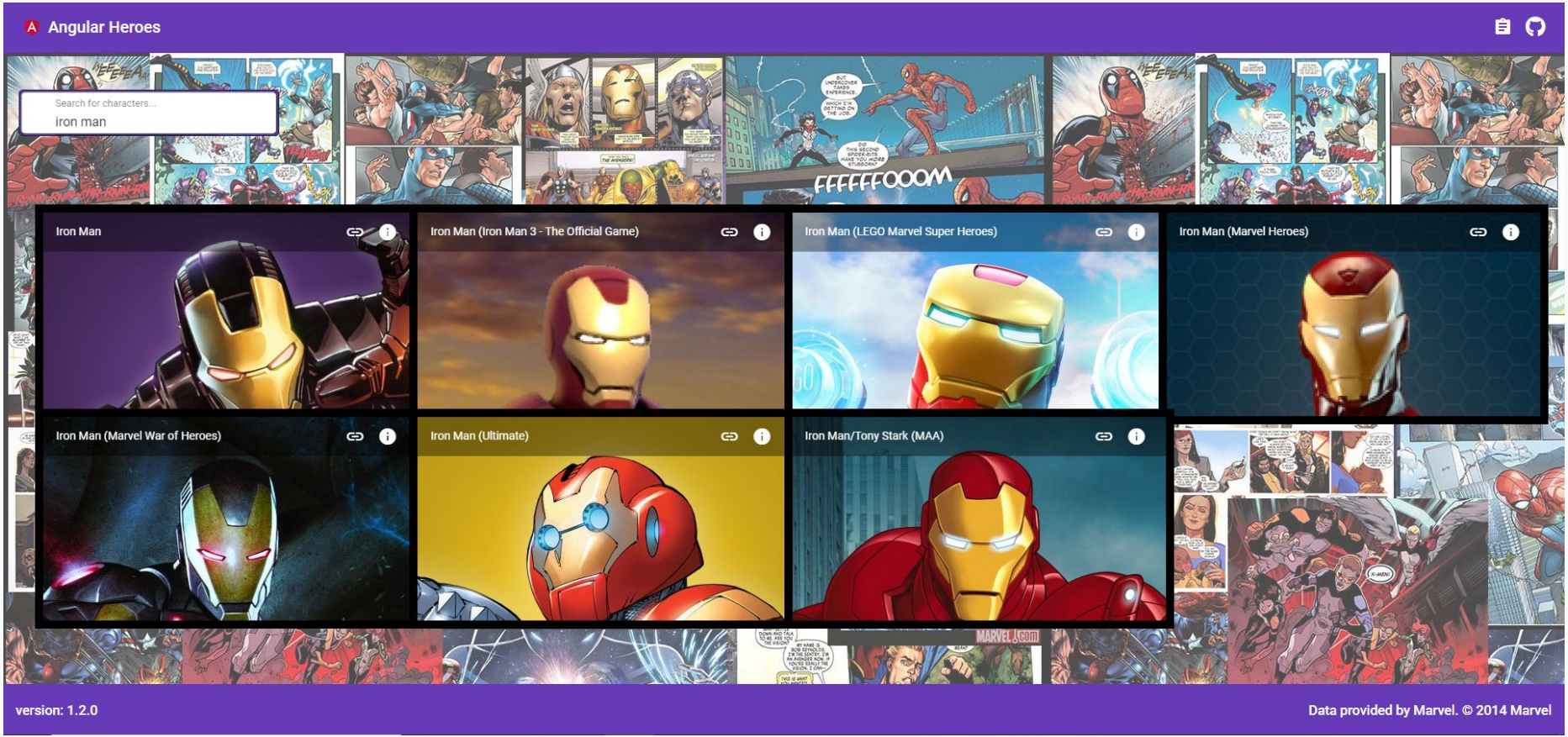
https://www.packtpub.com/eu/web-development/learning-angular-10-third-edition

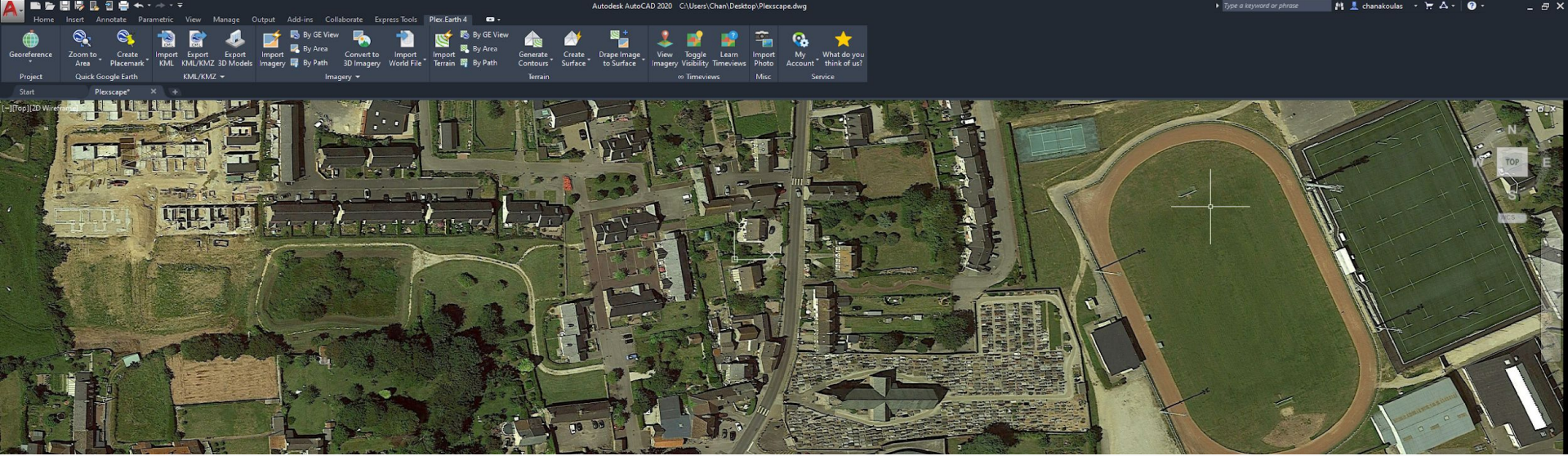
Open source

CESIUM®



Angular Superheroes (angular-superheroes.web.app)





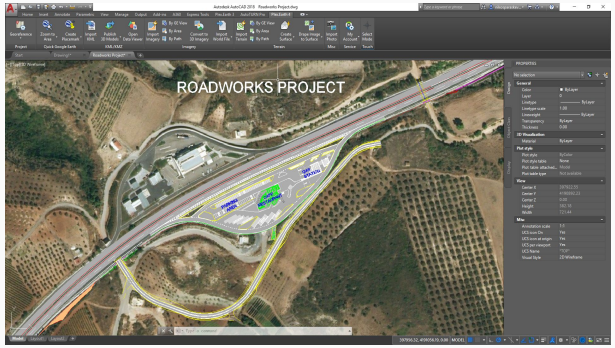
Plex.Earth

Plex.Earth is a hybrid desktop/cloud-based software, developed by Plexscape, that accelerates the design process of architectural, engineering and construction (AEC) projects.

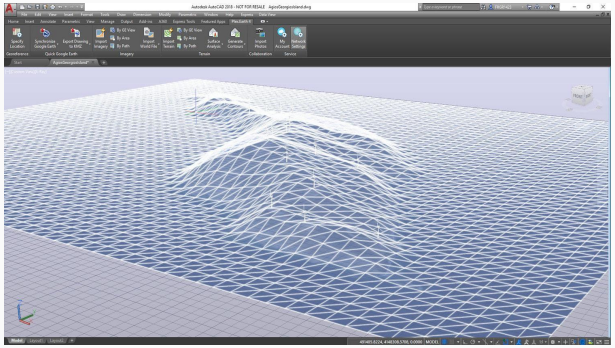
The application, which is used by some of the most notable firms worldwide, such as Hellenic Petroleum, F1, AECOM and Garver, enables designers to have the complete 3D geographical view of their real-world project sites within minutes, through Google Earth and other satellite data providers.

Plex.Earth

1. Import imagery



2. Import terrain



3. Export to Google Earth

Import imagery

Plex.Earth

Map Explorer

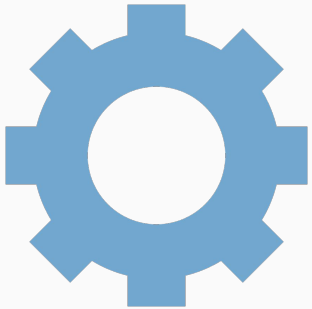
Electron

```
> npm install -D electron
```

- Cross platform framework to create desktop apps using web technologies
- Built on top of Chromium, Node.JS and Chrome v8 engine
- Popular apps (VSCode, Slack, Skype, Whatsapp)

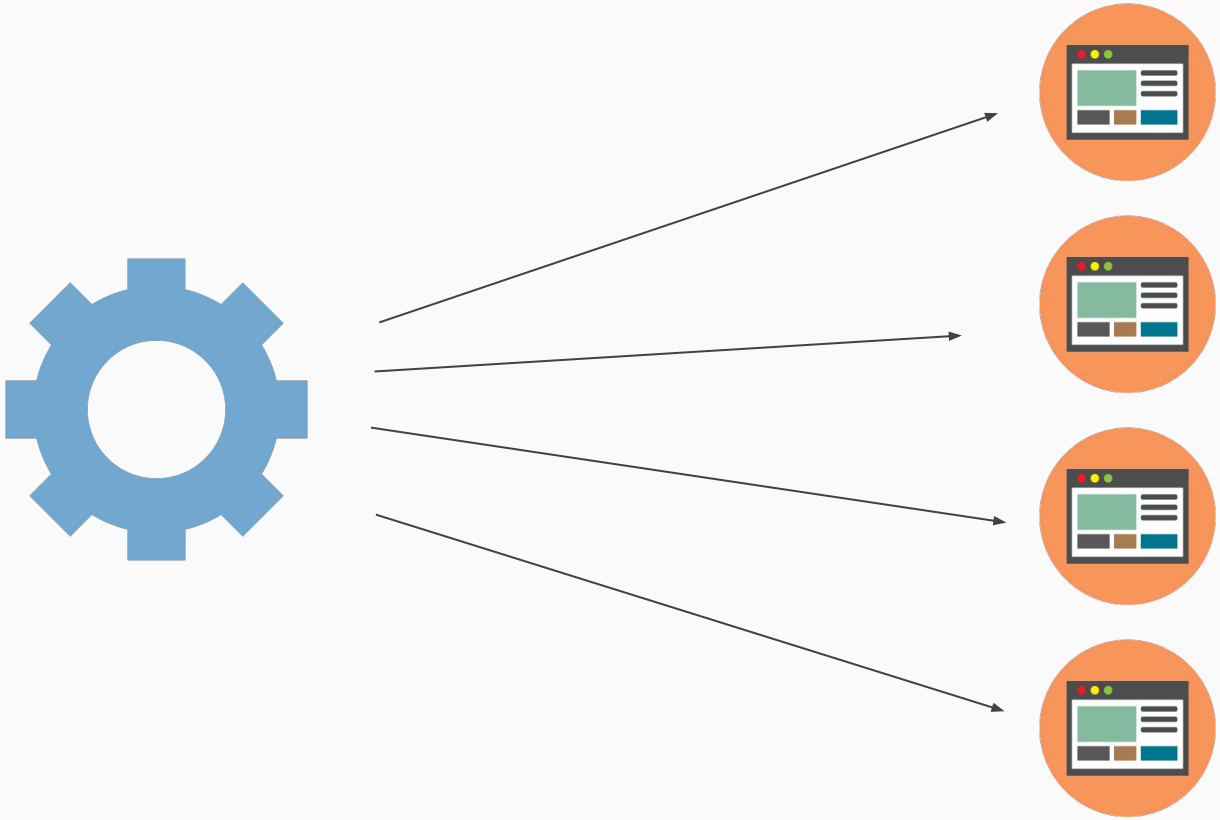
Electron architecture

Main



Renderer

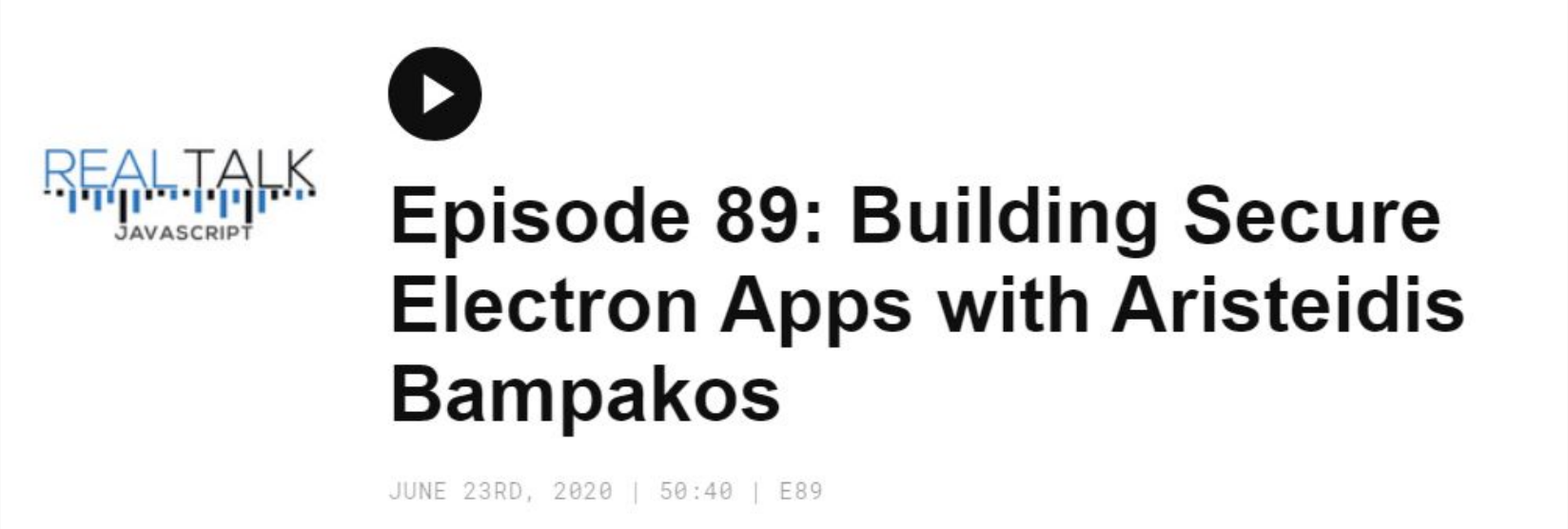
Electron architecture



BrowserWindow

```
const mainWindow = new BrowserWindow({
  width: 800,
  height: 600
});

mainWindow.loadFile('index.html');
```

Real Talk Javascript

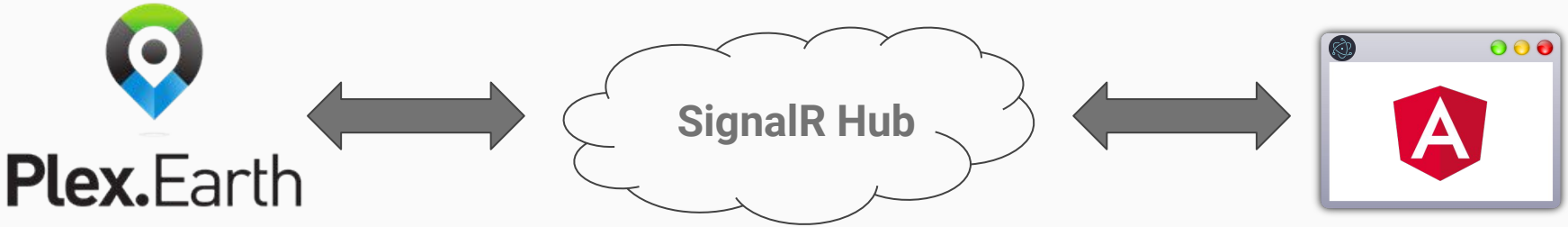


https://realtalkjavascript.simplecast.com/episodes/episode-89-building-secure-electron-apps-with-aristeidis-bampakos

Map Explorer

1. Desktop vs web
2. Serverless
3. Inter-process communication

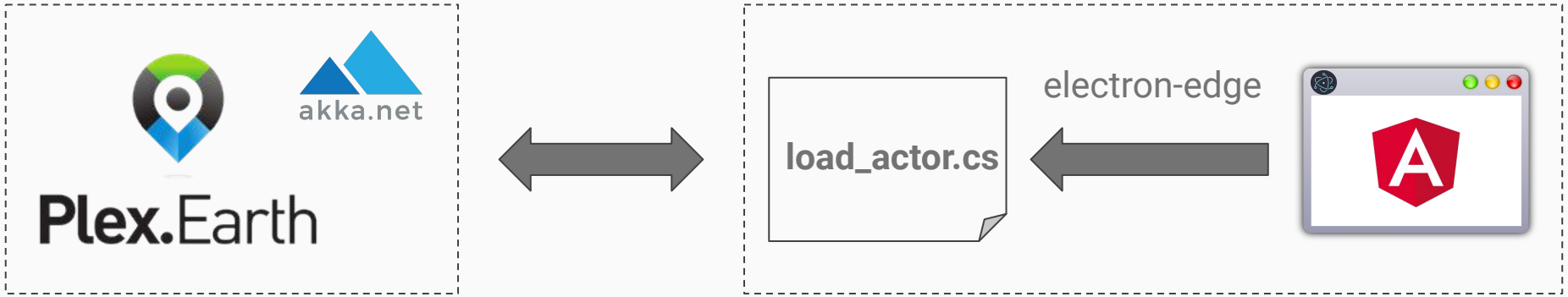
Prototype No.1



Latency of SignalR

Noticeable RTT for the same machine

Prototype No.2



`remote` object of Electron

Poor support and docs (Edge.js)

remote

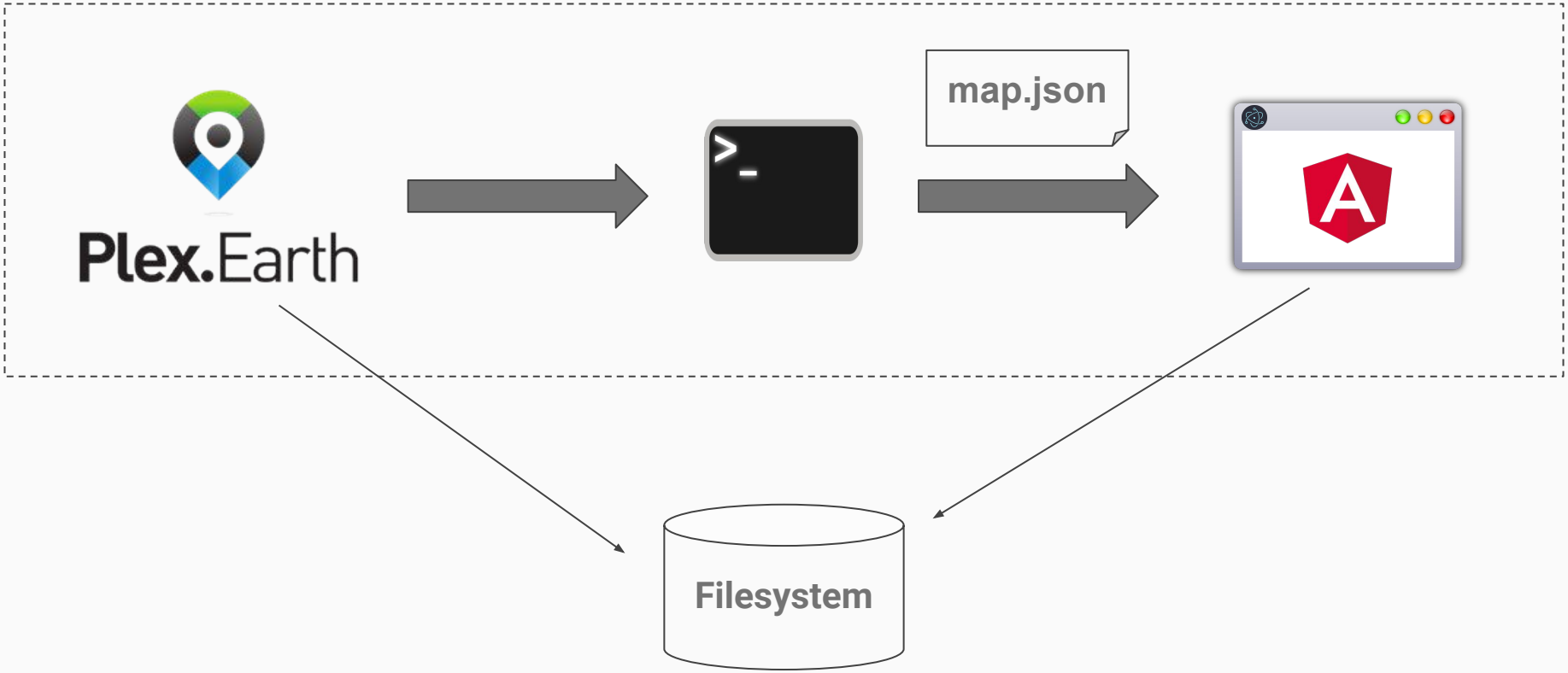
```
import * as fs from 'fs';

global['fs'] = fs;
```

```
require('electron').remote.getGlobal('fs');
```

remote

```
const mainWindow = new BrowserWindow({
  width: 800,
  height: 600,
  webPreferences: {
    enableRemoteModule: false
  }
});
```

Prototype No.3



IPC communication

```
import { ipcMain  } from 'electron';

ipcMain.handle('getData', () => {
  return 'Hello World';
});
```

```
async () => {
  const renderer = require('electron').ipcRenderer;
  return await renderer.invoke('getData');
}
```

angular-electron

https://github.com/angular/angular-electron

Resources

twitter.com/abampakos

github.com/bampakoa

medium.com/@abampakos

linkedin.com/aristeidisbampakos

- Demo https://github.com/bampakoa/angular-electron-sample
- Plex.Earth http://plex.earth/
- Electron https://www.electronjs.org/
- Electron getting start https://www.electronjs.org/docs/tutorial/first-app
- Electron's 'remote' module considered harmful
- Electron-edge https://github.com/kexplo/electron-edge
- ngx-electron http://github.com/ThorstenHans/ngx-electron/