**6. Protocol Design**

**6.1. Objectives**

이 목차에서는 전체 System을 구성하는 Sub-system들 또는 Component들 사이에서 일어나는 상호작용에서 어떠한 Protocol이 쓰이는지에 대해서 다룬다. 또한 어떠한 데이터들이 어떻게 전송되는지 다룬다.

**6.2. JSON**

JSON은 JavaScript Object Notation의 약자로써, 기준 형식으로써, 사람이 읽을 수 있는 문자열로 키:값 대응을 이루고 있다. 데이터 교환에 자주 쓰이는 형식이다. Json을 바로 넣을 수 있는 DB도 존재하지만, DB구성상 관계형 데이터베이스에 데이터를 저장하기 때문에, Json 파일을 바로 넣을 수 없으므로, Parsing하는 과정을 거쳐서 입력해야 한다.

**6.3. GPS Navigation System**

**6.3.1. Get Current GPS**

* Request

[Table 1] Table of Get Current GPS

| **Attribute** | **Detail** | |
| --- | --- | --- |
| Method | GET | |
| URI | /map/gps | |
| Header | Stations Address Array | Array containing nearby Base Station Address |
| Header | WIFI AP  Address Array | Array containing nearby WIFI AP Address |

* Response

[Table 2] Table of Get Current GPS

| **Attribute** | **Detail** | |
| --- | --- | --- |
| Success Code | 200 OK | |
| Failure Code | HTTP error code = 404 (Not Found) | |
| Success  Response Body | GPS Info | GPS Object (current location, coordinates…) |
| Failure  Response Body | Message | Request Error Message / Internal Server Error |

**6.3.2. Get Shortest Path**

* Request

[Table 3] Table of Get Shortest Path

| **Attribute** | **Detail** | |
| --- | --- | --- |
| Method | GET | |
| URI | /map/path | |
| Parameter | Source | Source Coordinates |
| Parameter | Destination | Destination Coordinates |

* Response

[Table 4] Table of Get Shortest Path

| **Attribute** | **Detail** | |
| --- | --- | --- |
| Success Code | 200 OK | |
| Failure Code | HTTP error code = 404 (Not Found) | |
| Success  Response Body | Path | Return Shortest Path |
| Failure  Response Body | Message | Request Error Message / Internal Server Error |

**6.3.3. Get Location Info**

* Request

[Table 5] Table of Get Location Info

| **Attribute** | **Detail** | |
| --- | --- | --- |
| Method | GET | |
| URI | /map/location/info | |
| Parameter | Coordinates | Coordinates of Requested location |

* Response

[Table 6] Table of Get Location Info

| **Attribute** | **Detail** | |
| --- | --- | --- |
| Success Code | 200 OK | |
| Failure Code | HTTP error code = 404 (Not Found) | |
| Success  Response Body | Info | Info Object(Id, feature, …) |
| Failure  Response Body | Message | Request Error Message / Internal Server Error |

**6.4. Road View System**

**6.4.1. Get Road View Data**

* Request

[Table 7] Table of Get Road View Data

| **Attribute** | **Detail** | |
| --- | --- | --- |
| Method | GET | |
| URI | /roadview | |
| Parameter | Location | Location you want to look up |
| Parameter | Direction | Specific direction you want to look up(ex. Front, Back, Left, Right) |

* Response

[Table 8] Table of Get Road View Data

| **Attribute** | **Detail** | |
| --- | --- | --- |
| Success Code | 200 OK | |
| Failure Code | HTTP error code = 404 (Not Found) | |
| Success  Response Body | Panorama Data | Rendered Map data  (Data Rendered from Panorama Map Picture) |
| Failure  Response Body | Message | Request Error Message / Internal Server Error |