

**Crowd Based TSP API Specification**

|  |  |
| --- | --- |
| **Revision** | **Notes** |
| Draft 1.0 | Inital draft specification |
| Draft 1.1 | Added Lift endpoint initial specifications |

**Driver API**

**Create driver**

*Description*

|  |  |
| --- | --- |
| **POST** | http://BASEURL/drivers |

**Sample data**:

|  |
| --- |
| {  "email": "john@doe.com",  "password": "12345678",  "name": "John Doe",  "phone": "3274589556",  "fcm\_token": "engPNkGUVl0:APA91bF3iVPpY6uC...",  } |

**Sample response**:

|  |
| --- |
| {  "\_id": "57d66eb3a377f26c67fd6ac3",  "email": "john@doe.com",  "password": "12345678",  "name": "John Doe",  "phone": "3274589556",  "dob": "1970-12-31",  "fcm\_token": "engPNkGUVl0:APA91bF3iVPpY6uC...",  "rating": 0,  "cars": [ ],  "pictures": [ ]  } |

Note:

* \_id in the response is automatically generated
* fcm\_token is not used at the moment, could be an arbitrary string as long as it’s not a null value
* rating logic is not present (will be always reported as 0)
* pictures: same as for rating logic (may not be needed in the future)

**Retrieve driver**

*Description*

|  |  |
| --- | --- |
| **GET** | http://BASEURL/driver/{driver\_id} |

**Sample response**:

|  |
| --- |
| {  "\_id": "57d66eb3a377f26c67fd6ac3",  "email": "john@doe.com",  "password": "12345678", // not returned if user not authorized  "name": "John Doe",  "phone": "3274589556",  "fcm\_token": "engPNkGUVl0:APA91bF3iVPpY6uC...",  "rating": 3,  "cars": [  "57d66eb3a377f26c67fd3da1",  "57d66eb3a377f26c67fda4d1e"  ],  "pictures": [  {  "\_id": "580712d4a377f21220d000d3",  "file": "/rest/v1/media/580712d4a377f21220d000d1"  }  ]  } |

Note:

* If no driver\_id is passed to the driver api, all users will be retrieved

**Update driver**

*Description*

|  |  |
| --- | --- |
| **PATCH** | http://BASEURL/driver/{driver\_id} |

**Sample data (the whole updated object):**

|  |
| --- |
| {  "email": "john@doe.com",  "password": "12345678",  "name": "John Doe",  "phone": "1234567890",  "fcm\_token": "engPNkGUVl0:APA91bF3iVPpY6uC...",  } |

* **Find driver**

*Descrizione*

A user can be searched by email:

|  |  |
| --- | --- |
| **GET** | http://BASEURL/driver?email=john@doe.com |

**Sample Response**

|  |
| --- |
| {  "\_id": "57d66eb3a377f26c67fd6ac3",  "email": "john@doe.com",  "password": "12345678", // not returned if user not authorized  "name": "John Doe",  "phone": "3274589556",  "fcm\_token": "engPNkGUVl0:APA91bF3iVPpY6uC...",  "rating": 3,  "cars": [  "57d66eb3a377f26c67fd3da1",  "57d66eb3a377f26c67fda4d1e"  ],  "pictures": [  {  "\_id": "580712d4a377f21220d000d3",  "file": "/rest/v1/media/580712d4a377f21220d000d1"  }  ]  } |

**Delete driver**

*Description*

|  |  |
| --- | --- |
| **DELETE** | http://BASEURL/driver/{driver\_id} |

**Cars API**

*Descrizione*

**Create car**

Descrizione

|  |  |
| --- | --- |
| **POST** | http://BASEURL/cars |

**Sample data**:

|  |
| --- |
| {  "owner\_id": "57ea39cfa377f252f2ba7a6e",  "model": "Volvo C30",  "plate": "DF115S1",  "colour": "titanium gray",  "seats": 4,  "car\_usage\_preferences": {  "air\_conditioning": "true",  "child\_seat": "false",  "food\_allowed": "false",  "luggage\_type": "SMALL",  "pets\_allowed": "false",  "smoking\_allowed": "false",  "music\_allowed": "false"  }  } |

Note:

* owner\_id must be a driver\_id (must exist a driver in the system with that id)
* \_id in the response is automatically generated
* car\_usage\_preference is optional

**Sample response:**

|  |
| --- |
| {  "\_id": "57ea39cfa377f252f2ba7bb2",  "owner\_id": "57ea39cfa377f252f2ba7a6e",  "model": "Volvo C30",  "plate": "DF115S1",  "colour": "titanium gray",  "seats": 4,  "car\_usage\_preferences": {  "air\_conditioning": "true",  "child\_seat": "false",  "food\_allowed": "false",  "luggage\_type": "SMALL",  "pets\_allowed": "false",  "smoking\_allowed": "false",  "music\_allowed": "false"  },  "pictures": [ ]  } |

**Retrieve car**

*Descrizione*

|  |  |
| --- | --- |
| **GET** | http://BASEURL/cars/{cars\_id} |

**Sample response:**

|  |
| --- |
| {  "\_id" : "57ea40c8a377f252f2ba887b",  "owner\_id": "57ea39cfa377f252f2ba7a6e",  "model": "Volvo C30",  "plate": "DF115S1",  "colour": "titanium gray",  "seats": 4,  "car\_usage\_preferences": {  "air\_conditioning": "true",  "child\_seat": "false",  "food\_allowed": "false",  "luggage\_type": "SMALL",  "pets\_allowed": "false",  "smoking\_allowed": "false",  "music\_allowed": "false"  },  "pictures": [  {  "\_id":"95e28b5f-b4b7-4eb6-89d7-48aecf248bbb",  "file":"/rest/v1/media/689cc241-a476-4621-a54f-59cce5407a34"  }  ]  } |

Note:

* If no ids are passed to the car api, all cars will be retrieved

**Update car**

*Description*

Same logic as "Update driver".

**Delete Car**

*Description*

|  |  |
| --- | --- |
| **DELETE** | http://BASEURL/cars/{car\_id} |

**Rides API**

*Api for a Driver to manage Ride offering/cancellation logic*

**Publish ride**

*Descrizione*

|  |  |
| --- | --- |
| **POST** | http://BASEURL/rides |

**Sample data:**

|  |
| --- |
| {  "driver\_id": "57d6710ba377f26c67fd6ar0",  "car\_id": "57d6710ba377f26c67fd6ar0",  "name": "Home - Work",  "start\_point": {  "lat": 41.962646,  "lon": 12.5186698  },  "end\_point": {  "lat": 41.9016809,  "lon": 12.5014055  },  "date": 1472832281,  } |

Note:

* Date parameter is expressed in Unix epoch format (seconds)

**Sample response**:

|  |
| --- |
| {  "\_id": "57f22838a377f22bfea8c416",  "driver\_id": "57d6710ba377f26c67fd6ar0",  "car\_id": "57d6710ba377f26c67fd6ar0",  "name": "Home - Work",  "start\_point": {  "lat": 41.962646,  "lon": 12.5186698  },  "end\_point": {  "lat": 41.9016809,  "lon": 12.5014055  },  "date": 1472832281,  "activated": True,  "polyline": "qyb\_Gu`lkAdB`@tAJ...",  "seats\_available": 2 ,  "lifts": []  } |

Note:

* Lifts are considered as “bookings”

**Retrieve ride**

*Descrizione*

|  |  |
| --- | --- |
| **GET** | http://BASEURL/rides/{ride\_id} |

**Sample response**:

|  |
| --- |
| {  "\_id": "57f22838a377f22bfea8c416",  "driver\_id": "57d6710ba377f26c67fd6ar0",  "car\_id": "57d6710ba377f26c67fd6ar0",  "name": "Home - Work",  "start\_point": {  "lat": 41.962646,  "lon": 12.5186698  },  "end\_point": {  "lat": 41.9016809,  "lon": 12.5014055  },  "date": 1472832281,  "activated": True,  "polyline": "qyb\_Gu`lkAdB`@tAJ...",  seats\_available : 2,  "lifts": []  } |

Note:

* If there are lifts associated with the ride, the jsonobject with key “lifts” includes a list of objects of tipe “lift”

**Update ride**

*Descrizione*

Similar to "Update driver".

**Find rides**

*Descrizione*

Find all rides offered by a specific driver:

|  |  |
| --- | --- |
| **GET** | http://BASEURL/rides?driver\_id=57d66eb3a377f26c67fd6ae5 |

**Delete Ride**

*Description*

|  |  |
| --- | --- |
| **DELETE** | http://BASEURL/rides/{ride\_id} |

**Bookingservices API (booking, search, etc…)**

**Search for a ride to book**

|  |  |
| --- | --- |
| **GET** | http://BASEURL/bookingservices/search?{request-parameters} |

**Request parameters:**

1. fromPlace 🡪 string representing geographic coordinates (ex. “00.00000,00.00000”)
2. toPlace 🡪 string representing geographic coordinates (ex. “00.00000,00.00000”)
3. date 🡪 string representing date in YYYY-MM-DD format (ex. 2021-10-05)
4. time 🡪 string representing time in HH:mmx (ex. 11:09am or 11:09pm)

call example:

<BASE\_URL>/lifts/search?fromPlace=45.41779,11.88086&toPlace=45.44143,12.32093&date=2021-10-05&time=11:09am

**Sample response:**

**Array of Lift Objects** containing all available lifts associated to rides which are compliant with the search parameters, this data is created at the time of the request, no modification is done in the persistence layer until a lift object is passed to the booking command (see POST request below).

|  |
| --- |
| [      {          "ride\_id": "61891ad66fd94429be47ac5d",          "trip": {              "steps": [                  {                      "route": {                          "start\_point": {                              "point": {                                  "lat": 45.41779,                                  "lon": 11.88086                              },                              "date": 1633425900,                              "address": "Origin"                          },                          "end\_point": {                              "point": {                                  "lat": 45.44143,                                  "lon": 12.32093                              },                              "date": 1633428438,                              "address": "Destination"                          },                          "intermediate\_points": [                              {                                  "point": {                                      "lat": 45.41779,                                      "lon": 11.88086                                  },                                  "date": 1337427521,                                  "address": "Origin"                              },  …other points here …                              {                                  "point": {                                      "lat": 45.440544,                                      "lon": 12.316658                                  },                                  "date": 1337430058,                                  "address": "parking aisle"                              }                          ]                      },                      "transport": {                          "travel\_mode": "CAR\_POOLING",                          "ride\_id": "61891ad66fd94429be47ac5d",                          "driver\_id": "615abb940012d99bd5448faa",                          "car\_id": "615b09c2d1e57cfb0237077f",                          "public\_uri": ""                      },                      "price": {                          "amount": 0.0,                          "currency": "€"                      },                      "distance": 38524                  }              ]          },          "driver\_id": "615abb940012d99bd5448faa",          "passenger\_id": "ObjecIdPassenger",          "car\_id": "615b09c2d1e57cfb0237077f",          "status": "PENDING",          "start\_point": {              "point": {                  "lat": 45.41779,                  "lon": 11.88086              },              "date": 1633425900,              "address": "Origin"          },          "end\_point": {              "point": {                  "lat": 45.44143,                  "lon": 12.32093              },              "date": 1633428438,              "address": "Destination"          }      },      {Another lift object},  {Another lift object},  ……  {Another lift object}  ] |

* **Create lift**

*Beware: this api call is still under developing, it may be possible that the “unique\_user\_id” would become the “travelEpisodeId”, or that a second parameter for “travelEpisodeId” will be necessary.*

*Unique\_user\_id should represent a r2r user, so that, if the “travelEpisodeId” will be added in conjunction to the unique\_user\_id, we can match multiple episodes for the same user*

*Descrizione*

|  |  |
| --- | --- |
| **POST** | http://BASEURL/lift/?r2rId={unique\_user\_id} |

**Sample data:**

|  |
| --- |
| One of the lift objects as received in the search api call such as:  {          "ride\_id": "61891ad66fd94429be47ac5d",          "trip": {              "steps": [                  {                      "route": {                          "start\_point": {                              "point": {                                  "lat": 45.41779,                                  "lon": 11.88086                              },                              "date": 1633425900,                              "address": "Origin"                          },                          "end\_point": {                              "point": {                                  "lat": 45.44143,                                  "lon": 12.32093                              },                              "date": 1633428438,                              "address": "Destination"                          },                          "intermediate\_points": [                              {                                  "point": {                                      "lat": 45.41779,                                      "lon": 11.88086                                  },                                  "date": 1337427521,                                  "address": "Origin"                              },  …other points here …                              {                                  "point": {                                      "lat": 45.440544,                                      "lon": 12.316658                                  },                                  "date": 1337430058,                                  "address": "parking aisle"                              }                          ]                      },                      "transport": {                          "travel\_mode": "CAR\_POOLING",                          "ride\_id": "61891ad66fd94429be47ac5d",                          "driver\_id": "615abb940012d99bd5448faa",                          "car\_id": "615b09c2d1e57cfb0237077f",                          "public\_uri": ""                      },                      "price": {                          "amount": 0.0,                          "currency": "€"                      },                      "distance": 38524                  }              ]          },          "driver\_id": "615abb940012d99bd5448faa",          "passenger\_id": "ObjecIdPassenger",          "car\_id": "615b09c2d1e57cfb0237077f",          "status": "PENDING",          "start\_point": {              "point": {                  "lat": 45.41779,                  "lon": 11.88086              },              "date": 1633425900,              "address": "Origin"          },          "end\_point": {              "point": {                  "lat": 45.44143,                  "lon": 12.32093              },              "date": 1633428438,              "address": "Destination"          }      } |

**Sample response**:

Upon a successful call, you will receive the same lift you sent as request, with the “\_id” field added on top, as testimony of the effective registration into the system, this “\_id” parameter may be used in the future for accessing that specific lift object, the presence of the associated “\_id” parameter means that the object is effectively registered into the system, and linked to the relative objects in the model

|  |
| --- |
| {      "\_id": "61bb1d1061655ba2b46b3681", 🡨 this parameter will be added in the object      "ride\_id": "61891ad66fd94429be47ac5d",      "trip": {          "steps": [              {                  "route": {                      "start\_point": {                          "point": {                              "lat": 45.41779,                              "lon": 11.88086                          },                          "date": 1633425900,                          "address": "Origin"                      },                      "end\_point": {                          "point": {                              "lat": 45.44143,                              "lon": 12.32093                          },                          "date": 1633428438,                          "address": "Destination"                      },                      "intermediate\_points": [                          {                              "point": {                                  "lat": 45.41779,                                  "lon": 11.88086                              },                              "date": 1337427521,                              "address": "Origin"                          },                          …other points here …                          {                              "point": {                                  "lat": 45.440544,                                  "lon": 12.316658                              },                              "date": 1337430058,                              "address": "parking aisle"                          }                      ]                  },                  "transport": {                      "travel\_mode": "CAR\_POOLING",                      "ride\_id": "61891ad66fd94429be47ac5d",                      "driver\_id": **null**,                      "car\_id": **null**,                      "public\_uri": ""                  },                  "price": {                      "amount": 0.0,                      "currency": "€"                  },                  "distance": 38524              }          ]      },      "driver\_id": "615abb940012d99bd5448faa",      "passenger\_id": "61827c702cf13a0351e1e041",      "car\_id": "615b09c2d1e57cfb0237077f",      "status": "PENDING",      "start\_point": {          "point": {              "lat": 45.41779,              "lon": 11.88086          },          "date": 1633425900,          "address": "Origin"      },      "end\_point": {          "point": {              "lat": 45.44143,              "lon": 12.32093          },          "date": 1633428438,          "address": "Destination"      }  } |

* **Retrieve lift**

*Descrizione*

|  |  |
| --- | --- |
| **GET** | http://BASEURL/lifts/{lifts\_id} |

**Sample response:**

|  |
| --- |
| A Lift object |

* **Delete Lift**

*Description*

|  |  |
| --- | --- |
| **DELETE** | http://BASEURL/lifts/{lift\_id} |