# Travel Companion Platform – Database Proposal

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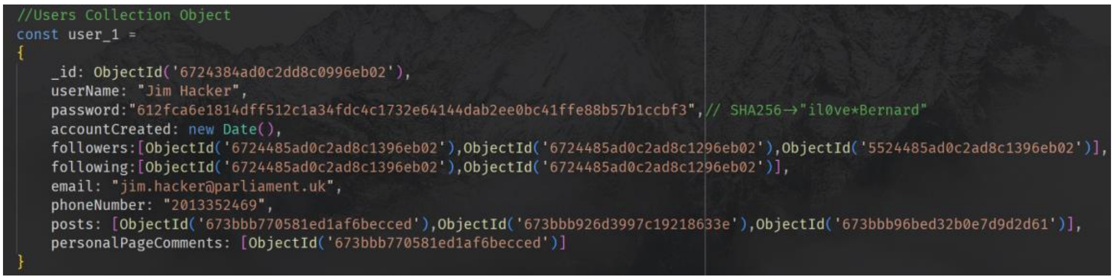
## Users

The users collection will contain all users registered on our website. Each user object represents one user, which contains all of the information of this account needed for this website's service and the public information shown to all users. This is an example of a user object:

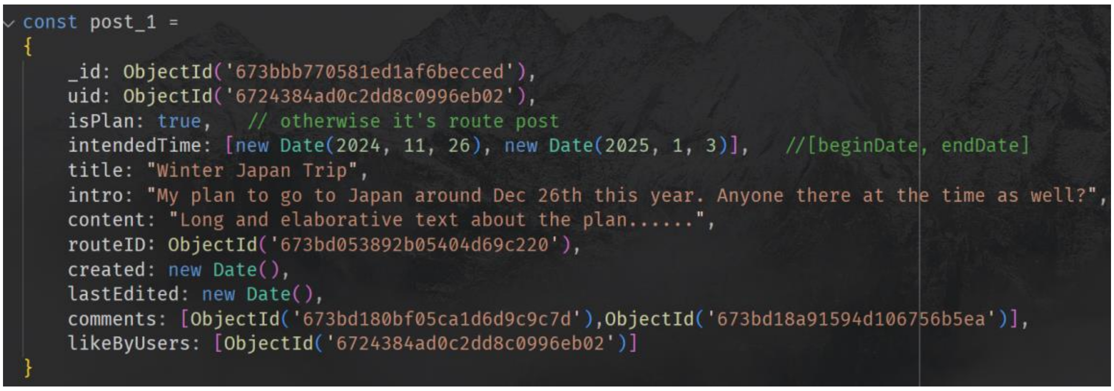


```
//Users Collection Object
const user_1 =
{
    _id: ObjectId('6724384ad0c2dd8c0996eb02'),
    userName: "Jim Hacker",
    password:"612fca6e1814dff512c1a34fdc4c1732e64144dab2ee0bc41ffe88b57b1ccbf3",// SHA256→"il0ve*Bernard"
    accountCreated: new Date(),
    followers:[ObjectId('6724485ad0c2ad8c1396eb02'),ObjectId('6724485ad0c2ad8c1296eb02'),ObjectId('5524485ad0c2ad8c1396eb02')],
    following:[ObjectId('6724485ad0c2ad8c1396eb02'),ObjectId('6724485ad0c2ad8c1296eb02')],
    email: "jim.hacker@parliament.uk",
    phoneNumber: "2013352469",
    posts: [ObjectId('673bbb770581ed1af6becced'),ObjectId('673bbb926d3997c19218633e'),ObjectId('673bbb96bed32b0e7d9d2d61')],
    personalPageComments: [ObjectId('673bbb770581ed1af6becced')]
}
```

| **Name** | **Type** | **Description** |
|---|---|---|
| _id | string | A globally unique IDs for the account |
| userName | string | User's customized username on the website |
| password | string | An encrypted account password string |
| accountCreated | Date() object | To mark the birthdate and age of an account |
| followers | array of string | The unique IDs of accounts that are following the user |
| following | array of string | The unique IDs of accounts that are followed by the user |
| email | string | Email address of the account user |
| phoneNumber | string | Phone number of the account user |
| posts | array of string | The unique IDs of posts that are created by the user |
| personalPageComments | array of string | The unique IDs of comments for the personal page of the user |

## Posts

The posts collection will contain all the routes and plans posts posted by all the users. It contains a “isPlan” entry of type Boolean to distinct plans from routes, which help us match users for travel companions more easily.

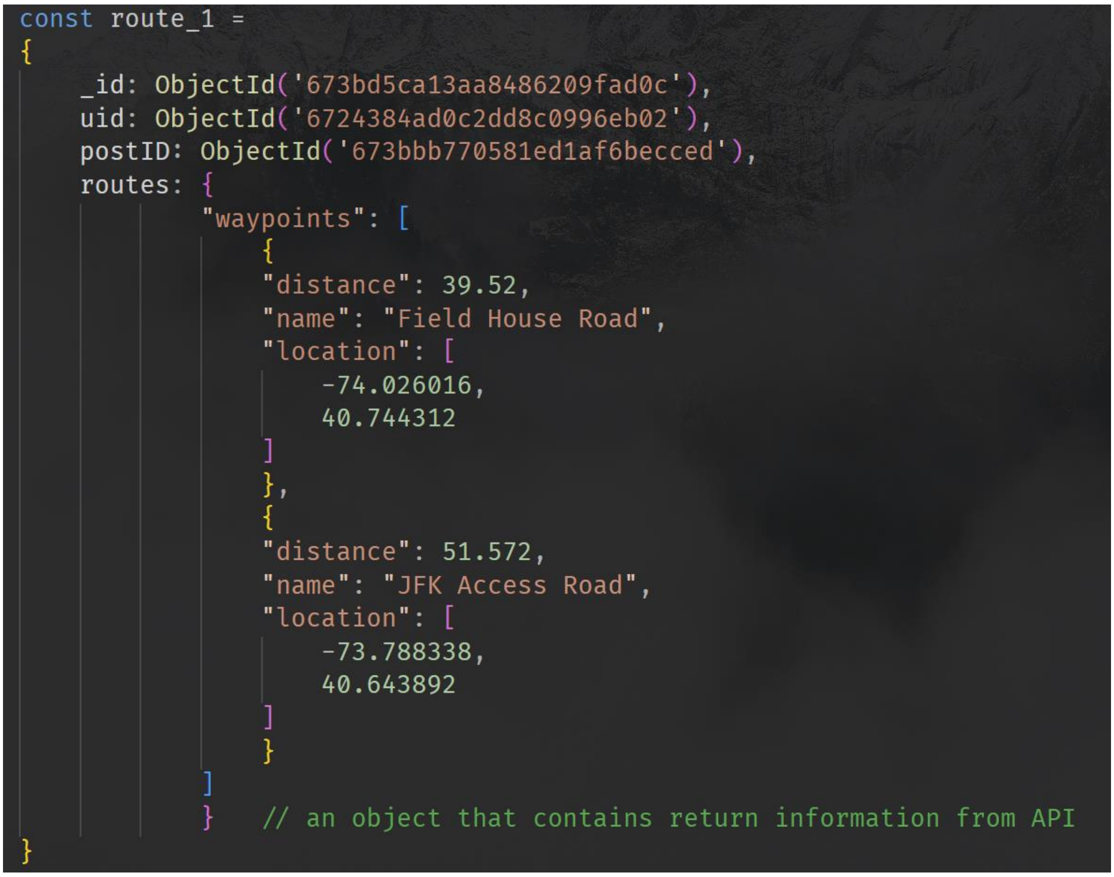


```
const post_1 =
{
    _id: ObjectId('673bbb770581ed1af6becced'),
    uid: ObjectId('6724384ad0c2dd8c0996eb02'),
    isPlan: true,   // otherwise it's route post
    intendedTime: [new Date(2024, 11, 26), new Date(2025, 1, 3)],   //[beginDate, endDate]
    title: "Winter Japan Trip",
    intro: "My plan to go to Japan around Dec 26th this year. Anyone there at the time as well?",
    content: "Long and elaborative text about the plan......",
    routeID: ObjectId('673bd053892b05404d69c220'),
    created: new Date(),
    lastEdited: new Date(),
    comments: [ObjectId('673bd180bf05ca1d6d9c9c7d'),ObjectId('673bd18a91594d106756b5ea')],
    likeByUsers: [ObjectId('6724384ad0c2dd8c0996eb02')]
}
```

| Name | Type | Description |
|---|---|---|
| _id | string | A globally unique IDs for the post |
| uid | string | Unique ID of the account that created this post |
| isPlan | boolean | True: is plan post, used for matching<br>False: is route post, not for matching |
| intendedTime | 1) array of two Date() objects;<br>2) null; | If it is a plan post, this would be:<br>[beginDate, endDate]<br>and will be used for matching.<br>If it is a route post, this could be null since it could be totally hypothetical. |
| title | String | Title of the post |
| Intro | string | Brief introduction of the post. For short display on the main page and the personal page. |
| content | string/object | The detailed content of the post. This could be a very long string. Or if using a rich text editor, it could be an object, depending on the tool. |
| routeID | string | The unique ID of the route object which will be used to render embedded map. |
| created | Date() object | The time this post is first created |
| lastEdited | Date() object | The time this post is last edited |
| comments | array of string | The unique IDs of the comments under this post |
| likeByUsers | array of string | The unique IDs of the users that liked this post |

## Routes

The routes collection contains all the routes (not route posts) information, which will be used for rendering embedded map. Storing these information could save us a lot of time and money on querying the Mapbox API for a route each time a user is trying to access an existing post.

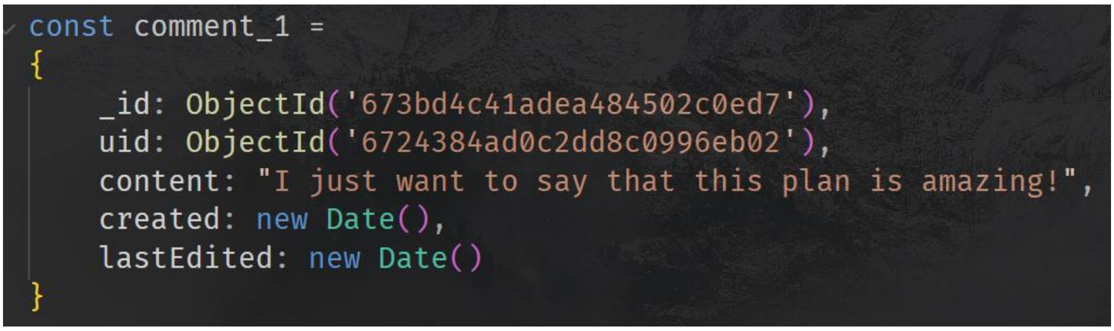


```
const route_1 =
{
    _id: ObjectId('673bd5ca13aa8486209fad0c'),
    uid: ObjectId('6724384ad0c2dd8c0996eb02'),
    postID: ObjectId('673bbb770581ed1af6becced'),
    routes: {
            "waypoints": [
                {
                "distance": 39.52,
                "name": "Field House Road",
                "location": [
                    -74.026016,
                    40.744312
                ]
                },
                {
                "distance": 51.572,
                "name": "JFK Access Road",
                "location": [
                    -73.788338,
                    40.643892
                ]
                }
            ]
            }   // an object that contains return information from API
}
```

| Name | Type | Description |
|---|---|---|
| _id | string | A globally unique ID for the route |
| uid | string | The unique ID of the account that created this route |
| postID | string | The unique ID of the post that this route belongs to |
| routes | object | An object that stores information returned from the Mapbox API |

### Comments

The comments collection contains all the comments made under all the posts and personal pages, each will be uniquely identified with an ID.



```
const comment_1 =
{
    _id: ObjectId('673bd4c41adea484502c0ed7'),
    uid: ObjectId('6724384ad0c2dd8c0996eb02'),
    content: "I just want to say that this plan is amazing!",
    created: new Date(),
    lastEdited: new Date()
}
```

| Name | Type | Description |
|---|---|---|
| _id | String | A globally unique ID for each one of the comment |
| uid | String | The unique ID of the account that created this comment |
| content | string/object | The content of comment. Similar to the content of a post |
| created | Date() object | The time this comment is first created |
| lastEdited | Date() object | The time this comment is last edited |