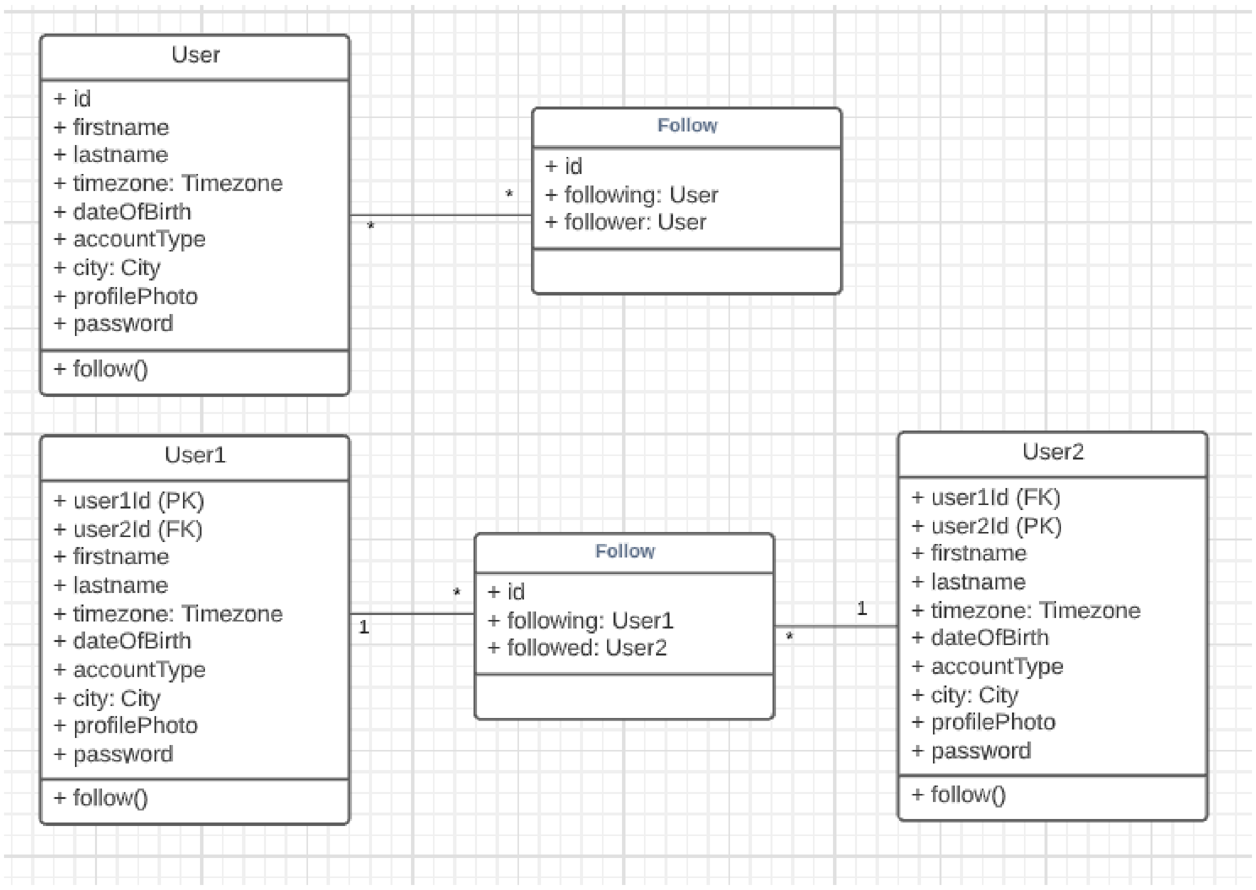
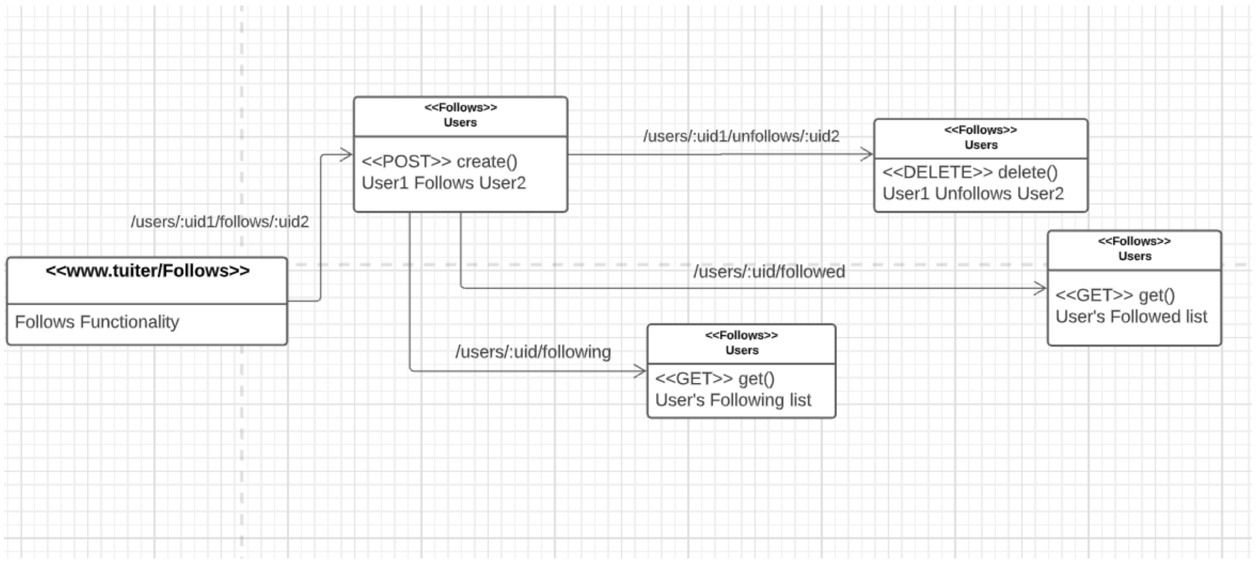
# Designing RESTful API's

## 1- Required UML and API's for Follows



| ***Use Case*** | ***Method /resource/path*** | ***Request*** | ***Response Body*** |
|---|---|---|---|
| User **Follows** Another User | **POST** /users/:uid1/follows/:uid2 | User1 Pk and User2 FK | New follow JSON |
| User **Unfollows** Another User | **DELETE** /users/:uid1/unfollows/:uid2 |  | Delete status |
| User retrieves **Followed** user | **GET** /users/:uid/follows | User's PK | User Following JSON array and Followed UserId |
| User retrieves **Following** user | **GET** /users/:uid/following | User’s PK | User Followed JSON array and Following UserId |



| ***1- User Follows Another User*** | |
|---|---|
| ***Request*** | POST<br><br>http://localhost:4000/api/users/6216773b8afb8157c7c855ac/follows/6216773b8afb8157c7c855ae |

| |
|---|
| |

| ***Response*** |
|---|
| { "userFollowed": "6216773b8afb8157c7c855ac", "userFollowing": "6216773b8afb8157c7c855ae", "_id": "6219914bb8895e9aca665452", "__v": 0 } |

| ***2- User Unfollows Another User*** | |
|---|---|
| ***Request*** | DELETE http://localhost:4000/api/users/6216773b8afb8157c7c855ac/unfollows/6216773b8afb8157c7c855ae |
| | |

| ***Response*** |
|---|
| { "deletedCount": 1 } |

| ***3- User Retrieves Followed User*** | |
|---|---|
| ***Request*** | GET http://localhost:4000/api/users/6216773b8afb8157c7c855ac/follows |
| | |

***Response***

```
[
  {
    "_id": "6217e9f0de4ca441db3a9d4b",
    "userFollowed": "6216773b8afb8157c7c855ac",
    "userFollowing": {
      "_id": "6216773b8afb8157c7c855ae",
      "username": "charles",
      "password": "9091",
      "firstName": "charles",
      "lastName": "waters",
      "email": "charles@hotmail.com",
      "salary": 50000,
      "__v": 0
    },
    "__v": 0
  }
]
```

| **_4- User Retrieves Following User_** | |
|---|---|
| **_Request_** | GET http://localhost:4000/api/users/6216773b8afb8157c7c855ae/following |
| | |

| **_Response_** |
|---|

```
[
  {
    "_id": "6217e9f0de4ca441db3a9d4b",
    "userFollowed": {
      "_id": "6216773b8afb8157c7c855ac",
      "username": "bob",
      "password": "9098",
      "firstName": "bob",
      "lastName": "ochani",
      "email": "bob@hotmail.com",
      "salary": 50000,
      "__v": 0
    },
    "userFollowing": "6216773b8afb8157c7c855ae",
    "__v": 0
  }
]
```

## 2- Alternative UML and API’s for Follows

| ***Use Case*** | ***Method /resource/path*** | ***Request*** | ***Response Body*** |
|---|---|---|---|
| User retrieves All **Followed** users | **GET** /followed | | All Followed UserId’s |
| User retrieves All **Following** user | **GET** /following | | User Followed JSON array and Following UserId |

**Pros**

GET : All Followed UserId’s

This will retrieve every user’s information that are followed without mentioning any userid in the request

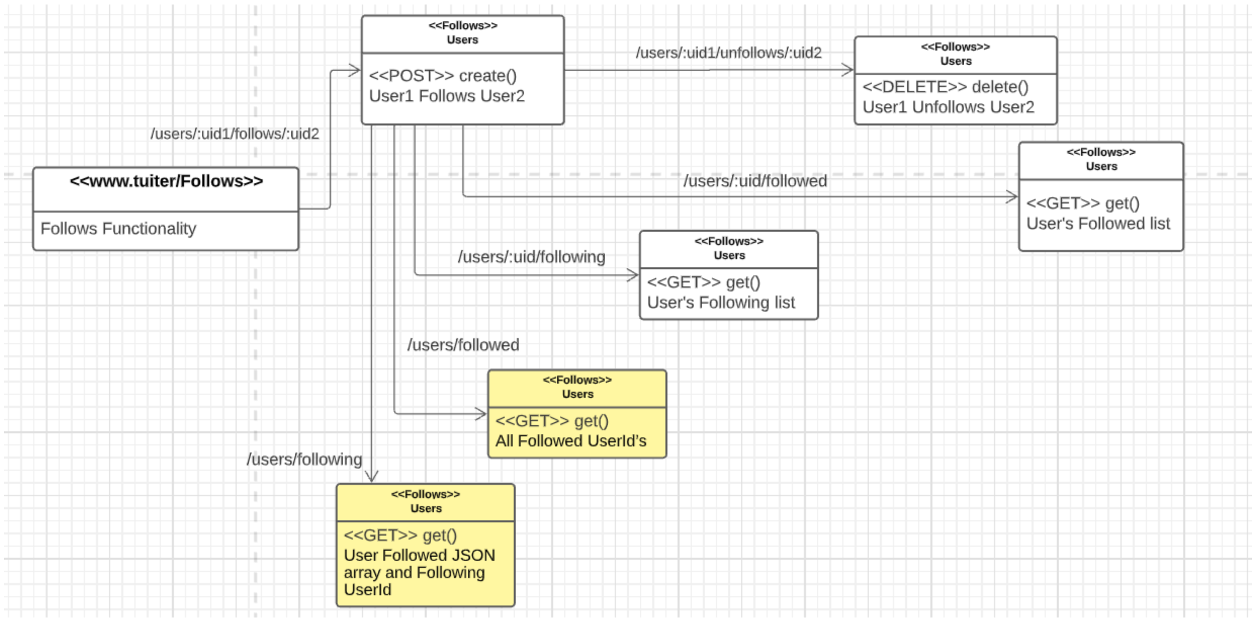
GET : All Followed UserId’s

This will retrieve every user’s information that are following other user’s without mentioning any userid in the request

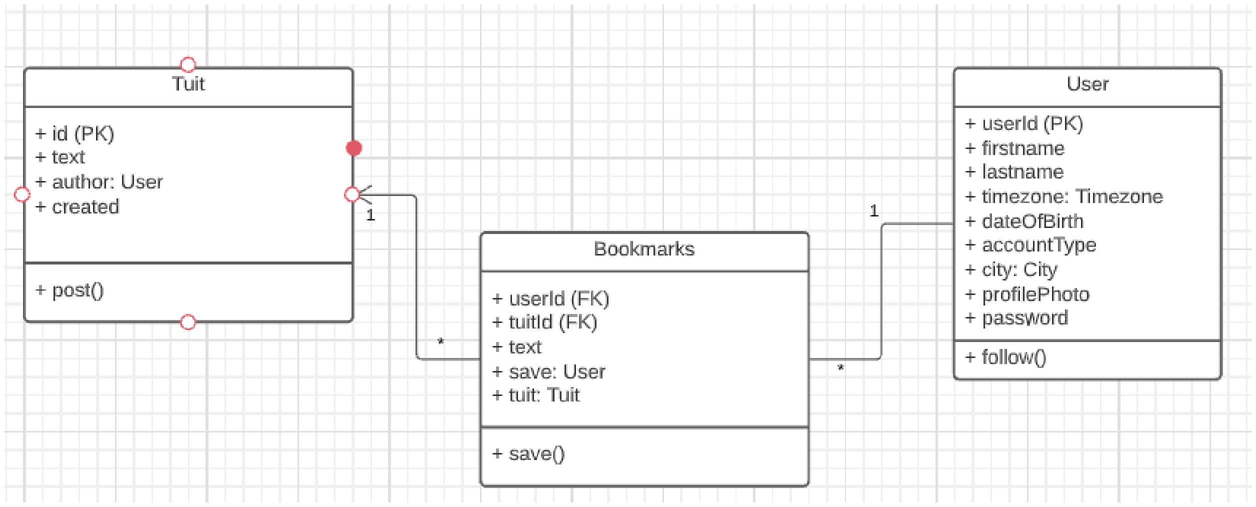
**Cons**

It will be hard to track the information of all the users, keeping in mind that all the users have many to many relationships in their following list and not mentioning user ID as parameter makes it difficult to fetch.

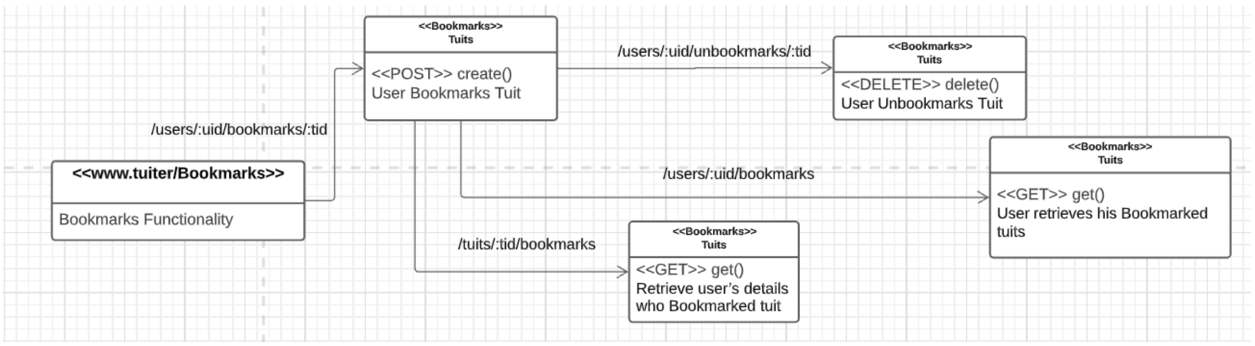
The highlighted one are the alternative method:



## 1- Required UML and API’s for Bookmarks



| ***Use Case*** | ***Method /resource/path*** | ***Request*** | ***Response Body*** |
|---|---|---|---|
| User **Bookmarks** a tuit | **POST** /users/:uid/bookmarks/:tid | User's and Tuit's PK | New bookmark JSON |
| User **Unbookmarks** Tuit | **DELETE** /users/:uid/unbookmarks/:tid | | Delete status |
| User retrieves his **Bookmarked** tuits | **GET** /users/:uid/bookmarks | User's PK | Bookmarked JSON array |
| Retrieve user’s details who **Bookmarked** tuit | **GET** /tuits/:tid/bookmarks | User’s PK | User JSON array |



| ***1- User Bookmarks Tuit*** | |
|---|---|
| ***Request*** | POST<br>http://localhost:4000/api/users/6216773b8afb8157c7c855ae/bookmarks/62168a0e42f625a2b490876b |
| | |

| ***Response*** |
|---|
| {<br>"bookmarkedTuit": "62168a0e42f625a2b490876b",<br>"bookmarkedBy": "6216773b8afb8157c7c855ae",<br>"_id": "621998afb8895e9aca665454",<br>"__v": 0<br>} |

| ***2- User Unbookmarks Tuit*** | |
|---|---|
| ***Request*** | DELETE<br><br>http://localhost:4000/api/users/6216773b8afb8157c7c855ae/unbookmarks/62168a0e42f625a2b490876b |
| | |

***Response***

```
{
   "deletedCount": 1
}
```

| ***3- User retrieves bookmarks Tuit*** | |
|---|---|
| ***Request*** | GET<br><br>http://localhost:4000/api/users/6216773b8afb8157c7c855ae/bookmarks |
| | |

***Response***

```
[
   {
      "_id": "6217e02ab1728cdbd84097f9",
      "bookmarkedTuit": {
          "_id": "62168a0e42f625a2b490876b",
          "tuit": "charles's 1st tuit regarding his wife",
          "postedBy": "6216773b8afb8157c7c855ae",
          "postedOn": "2022-02-23T19:25:02.223Z",
          "__v": 0
      },
      "bookmarkedBy": "6216773b8afb8157c7c855ae",
      "__v": 0
   }
]
```

| ***4- Retrieves User's that Bookmarked a tuit*** | |
|---|---|
| ***Request*** | GET http://localhost:4000/api/tuits/62168a0e42f625a2b490876b/bookmarks |
| | |

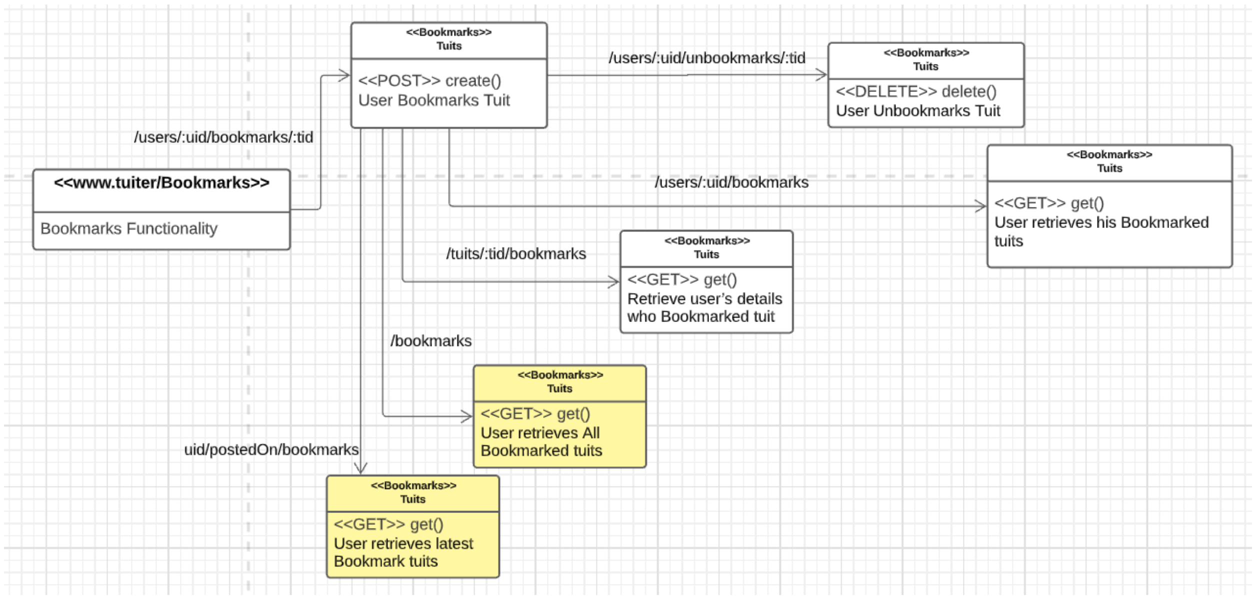
***Response***

```
[
    {
        "_id": "6217e02ab1728cdbd84097f9",
        "bookmarkedTuit": "62168a0e42f625a2b490876b",
        "bookmarkedBy": {
            "_id": "6216773b8afb8157c7c855ae",
            "username": "charles",
            "password": "9091",
            "firstName": "charles",
            "lastName": "waters",
            "email": "charles@hotmail.com",
            "salary": 50000,
            "__v": 0
        },
        "__v": 0
    }
]
```

## 2- Alternative UML and API’s for Bookmarks

| ***Use Case*** | ***Method /resource/path*** | ***Request*** | ***Response Body*** |
|---|---|---|---|
| User retrieves All **Bookmarked** tuits | **GET** /bookmarks | | All Bookmarked Tuits |
| User retrieves latest **Bookmark** tuits | **GET** uid/postedOn/bookmarks | Date | User latest Bookmarked JSON array |

The highlighted one are the alternative method



**Pros**

GET : All Bookmarked tuits

This will retrieve every user’s information that are bookmarked without mentioning any userid in the request

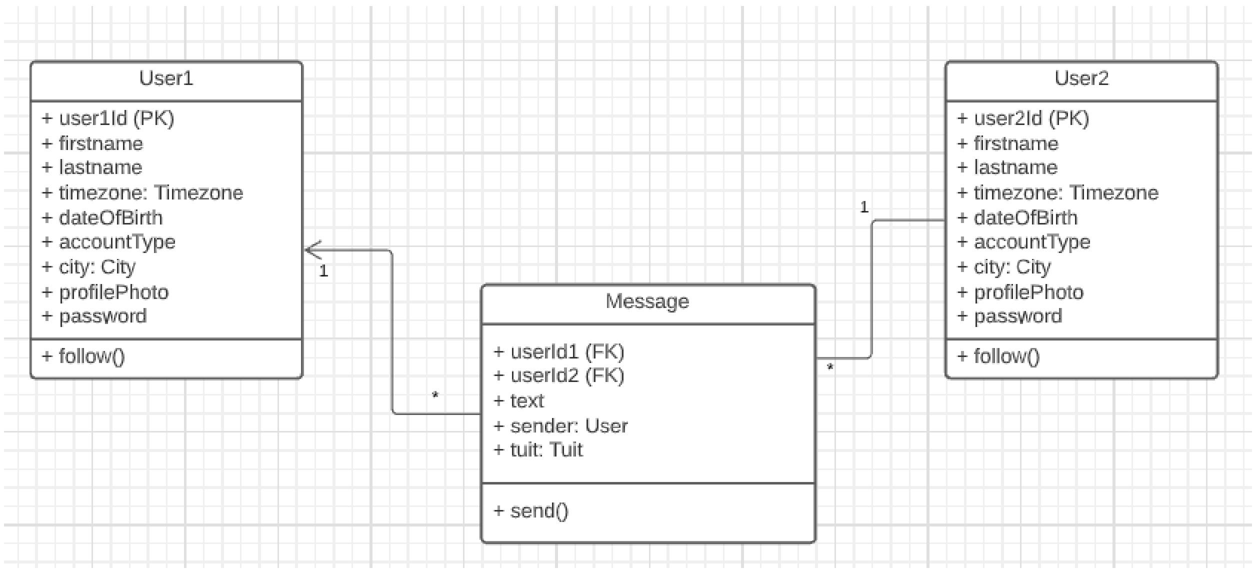
GET : Latest Bookmarked tuits

This will retrieve latest bookmarked tuits with the parameter of Date

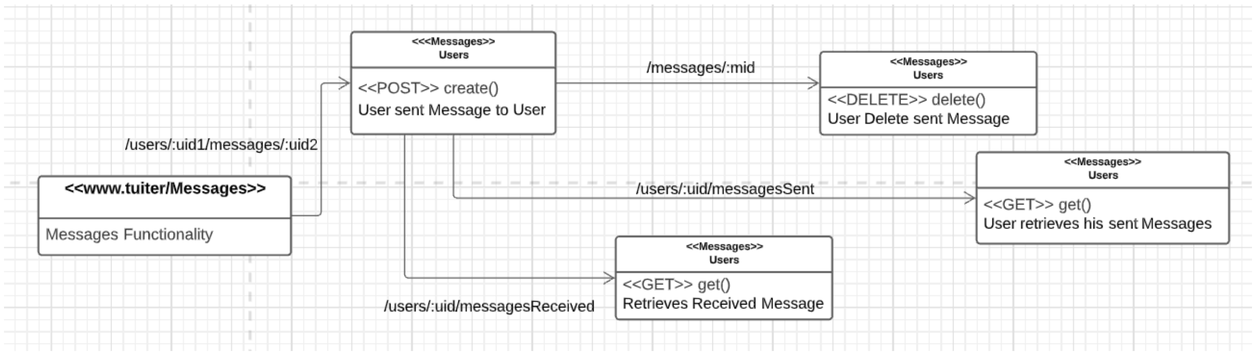
**Cons**

It will be hard to track the information of all the latest bookmarked tuit without the use of user id as parameter.

## 1- Required UML and API's for Message



| ***Use Case*** | ***Method /resource/path*** | ***Request*** | ***Response Body*** |
|---|---|---|---|
| User sent **Message** to User | **POST** /users/:uid1/messages/:uid2 | User1 PK and User2 FK | New Message JSON |
| User Delete sent **Message** | **DELETE** /messages/:mid | Message's mid Pk | Delete Status |
| User retrieves his sent **Messages** | **GET** /users/:uid/messagesSent | User's PK | Message Sent |
| Retrieves Received **Message** | **GET** /users/:uid/messagesReceived | User's PK | Message Received |



| ***1- User Message Another User*** | |
|---|---|
| ***Request*** | POST<br><br>http://localhost:4000/api/users/6216773b8afb8157c7c855ac/messages/6216773b8afb8157c7c855ae |
| | |

| ***Response*** |
|---|
| {<br>"message": "bob's sends message to his friend",<br>"sentTo": "6216773b8afb8157c7c855ae",<br>"receivedFrom": "6216773b8afb8157c7c855ac",<br>"_id": "621926eda91e890b134a323e",<br>"sentOn": "2022-02-25T18:58:53.437Z",<br>"__v": 0<br>} |

| ***2- User Delete Sent Message*** | |
|---|---|
| ***Request*** | DELETE<br><br>http://localhost:4000/api/messages/621926eda91e890b134a323e |
| | |

***Response***

```
{
   "deletedCount": 1
}
```

| ***3- User Retrieve Sent Message*** | |
|---|---|
| ***Request*** | GET<br><br>http://localhost:4000/api/users/6216773b8afb8157c7c855ae/messagesS ent |
| | |

***Response***

```
[
   {
      "_id": "621926eda91e890b134a323e",
      "message": "bob's sends message to his friend",
        "sentTo": "6216773b8afb8157c7c855ae",
        "receivedFrom": "6216773b8afb8157c7c855ac",
        "sentOn": "2022-02-25T18:58:53.437Z",
        "__v": 0
    }
]
```

| ***4- User Retrieves Received Message*** | |
|---|---|
| ***Request*** | GET<br><br>http://localhost:4000/api/users/6216773b8afb8157c7c855ac/messagesReceived |
| | |

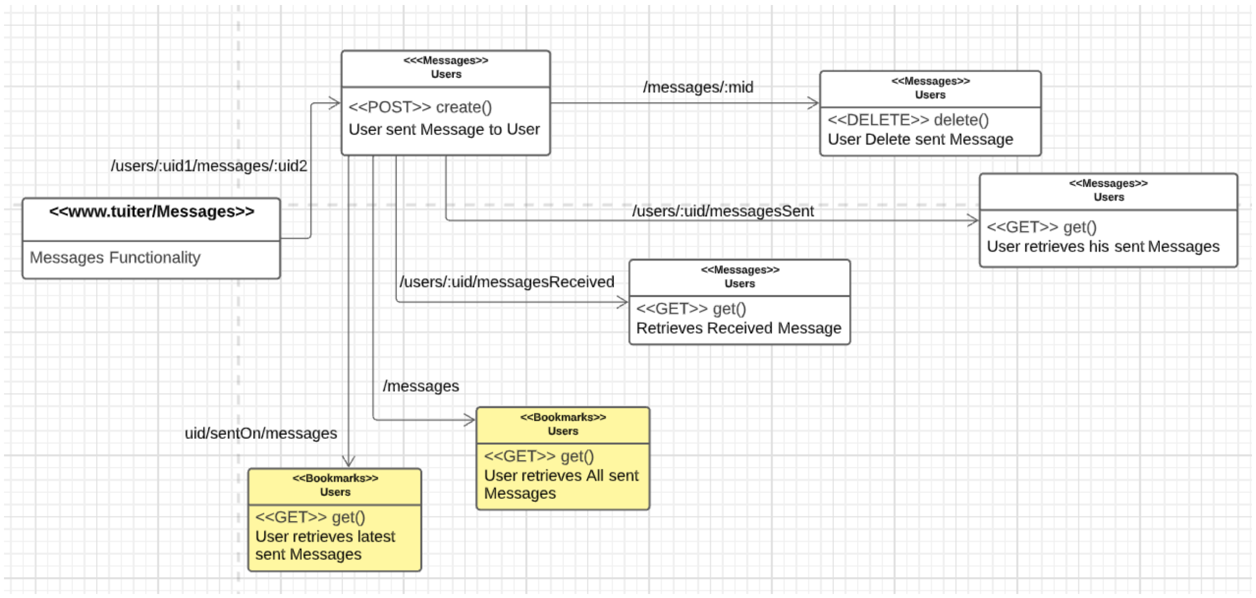
***Response***

```
[
    {
        "_id": "621926eda91e890b134a323e",
        "message": "bob's sends message to his friend",
        "sentTo": "6216773b8afb8157c7c855ae",
        "receivedFrom": "6216773b8afb8157c7c855ac",
        "sentOn": "2022-02-25T18:58:53.437Z",
        "__v": 0
    }
]
```

## 2- Alternative UML and API's for Message

| *Use Case* | *Method /resource/path* | *Request* | *Response Body* |
|---|---|---|---|
| User retrieves All sent **Messages** | **GET** /messages | | All sent Messages |
| User retrieves latest sent **Messages** | **GET** uid/sentOn/messages | Date | User latest sent Messages JSON array |

The highlighted one are the alternative methods



**Pros**

GET : All sent Message

This will retrieve every user's sent messages without mentioning any userid in the request

GET : Latest sent Messages

This will retrieve latest sent messages with the parameter of Date

**Cons**

It will be hard to track the information of all the latest sent messages without the use of user id as parameter.