

# *Lighthouse*

Database Proposal

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*CS 546: Web Programming I | Fall 2020*

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# 1 Users Collection

## 1.1 Description

The users collection will hold the data for each user including the `_id`, email, username, password, fullName, posts, comments under other users' posts, and a list of classes they are currently taking.

## 1.2 Sample Users JSON

```
1 userCollection: [  
2   {  
3     "_id": ObjectId("7b7997a2-c0d2-4f8c-b27a-6a1d4b5b6310"),  
4     "email": "validEmail@address.com",  
5     "fullName": {"firstName": "Eric", "lastName": "Altenburg"},  
6     "posts": ["7b7997a2-c0d2-4f8c-b27a-6a1d4b5b6311", ... , "7  
      ↪ b7997a2-c0d2-4f8c-b27a-6a1d4b5b63134"],  
7     "comments": ["7b7997a2-c0d2-4f8c-b27a-6a1d4b5b6411", ... , "7  
      ↪ b7997a2-c0d2-4f8c-b27a-6a1d4b5b63434"],  
8     "classes": ["8b7997a2-c0d2-4f8c-b27a-6a1d4b5b6411", ... , "8  
      ↪ b7997a2-c0d2-4f8c-b27a-6a1d4b5b63434"]  
9   },  
10  ...,  
11  {  
12    "_id": ObjectId("7b7997a2-c0d2-4f8c-b27a-6a1d4b5b6510"),  
13    "email": "validEmail@address.com",  
14    "fullName": {"firstName": "John", "lastName": "Doe"},  
15    "posts": ["7b7997a2-c0d2-4f8c-b27a-6a1d4b5b6511", ... , "7  
      ↪ b7997a2-c0d2-4f8c-b27a-6a1d4b5b63534"],  
16    "comments": ["8b7997a2-c0d2-4f8c-b27a-6a1d4b5b6511", ... , "8  
      ↪ b7997a2-c0d2-4f8c-b27a-6a1d4b5b63534"],  
17    "classes": ["8b7997a2-c0d2-4f8c-b27a-6a1d4b5b6411", ... , "8  
      ↪ b7997a2-c0d2-4f8c-b27a-6a1d4b5b63434"]  
18  }  
19 ]
```

### 1.3 User Table

Name	Type	Description
_id	ObjectId	Automatically generated
email	String	Email address for the user, must be valid
fullName	Subdocument	Subdocument that contains the first and last name of the user which are both strings
posts	Array[String]	Array of post ids the user has posted
comments	Array[String]	Array of comment ids the user has commented on other posts
classes	Array[String]	Array of the classes the user is currently taking

## 2 Posts Collection

### 2.1 Description

The users collection will hold the data for each user including the `_id`, email, username, password, fullName, posts, comments under other users' posts, and a list of classes they are currently taking.

### 2.2 Sample Posts JSON

```
1 userCollection: [  
2   {  
3     "_id": ObjectId("7b7997a2-c0d2-4f8c-b27a-6a1d4b5b6310"),  
4     "email": "validEmail@address.com",  
5     "fullName": {"firstName": "Eric", "lastName": "Altenburg"},  
6     "posts": ["7b7997a2-c0d2-4f8c-b27a-6a1d4b5b6311", ... , "7  
      ↪ b7997a2-c0d2-4f8c-b27a-6a1d4b5b63134"],  
7     "comments": ["7b7997a2-c0d2-4f8c-b27a-6a1d4b5b6411", ... , "7  
      ↪ b7997a2-c0d2-4f8c-b27a-6a1d4b5b63434"],  
8     "classes": ["8b7997a2-c0d2-4f8c-b27a-6a1d4b5b6411", ... , "8  
      ↪ b7997a2-c0d2-4f8c-b27a-6a1d4b5b63434"]  
9   },  
10  ...,  
11  {  
12    "_id": ObjectId("7b7997a2-c0d2-4f8c-b27a-6a1d4b5b6510"),  
13    "email": "validEmail@address.com",  
14    "fullName": {"firstName": "John", "lastName": "Doe"},  
15    "posts": ["7b7997a2-c0d2-4f8c-b27a-6a1d4b5b6511", ... , "7  
      ↪ b7997a2-c0d2-4f8c-b27a-6a1d4b5b63534"],  
16    "comments": ["8b7997a2-c0d2-4f8c-b27a-6a1d4b5b6511", ... , "8  
      ↪ b7997a2-c0d2-4f8c-b27a-6a1d4b5b63534"],  
17    "classes": ["8b7997a2-c0d2-4f8c-b27a-6a1d4b5b6411", ... , "8  
      ↪ b7997a2-c0d2-4f8c-b27a-6a1d4b5b63434"]  
18  }  
19 ]
```

### 2.3 Posts Table

Name	Type	Description
_id	ObjectId	Automatically generated
email	String	Email address for the user, must be valid
fullName	Subdocument	Subdocument that contains the first and last name of the user which are both strings
posts	Array[String]	Array of post ids the user has posted
comments	Array[String]	Array of comment ids the user has commented on other posts
classes	Array[String]	Array of the classes the user is currently taking

## 3 Comments Collection

### 3.1 Description

The users collection will hold the data for each user including the `_id`, email, username, password, fullName, posts, comments under other users' posts, and a list of classes they are currently taking.

### 3.2 Sample Comments JSON

```
1 userCollection: [  
2   {  
3     "_id": ObjectId("7b7997a2-c0d2-4f8c-b27a-6a1d4b5b6310"),  
4     "email": "validEmail@address.com",  
5     "fullName": {"firstName": "Eric", "lastName": "Altenburg"},  
6     "posts": ["7b7997a2-c0d2-4f8c-b27a-6a1d4b5b6311", ... , "7  
      ↪ b7997a2-c0d2-4f8c-b27a-6a1d4b5b63134"],  
7     "comments": ["7b7997a2-c0d2-4f8c-b27a-6a1d4b5b6411", ... , "7  
      ↪ b7997a2-c0d2-4f8c-b27a-6a1d4b5b63434"],  
8     "classes": ["8b7997a2-c0d2-4f8c-b27a-6a1d4b5b6411", ... , "8  
      ↪ b7997a2-c0d2-4f8c-b27a-6a1d4b5b63434"]  
9   },  
10  ...,  
11  {  
12    "_id": ObjectId("7b7997a2-c0d2-4f8c-b27a-6a1d4b5b6510"),  
13    "email": "validEmail@address.com",  
14    "fullName": {"firstName": "John", "lastName": "Doe"},  
15    "posts": ["7b7997a2-c0d2-4f8c-b27a-6a1d4b5b6511", ... , "7  
      ↪ b7997a2-c0d2-4f8c-b27a-6a1d4b5b63534"],  
16    "comments": ["8b7997a2-c0d2-4f8c-b27a-6a1d4b5b6511", ... , "8  
      ↪ b7997a2-c0d2-4f8c-b27a-6a1d4b5b63534"],  
17    "classes": ["8b7997a2-c0d2-4f8c-b27a-6a1d4b5b6411", ... , "8  
      ↪ b7997a2-c0d2-4f8c-b27a-6a1d4b5b63434"]  
18  }  
19 ]
```

### 3.3 Comments Table

Name	Type	Description
_id	ObjectId	Automatically generated
email	String	Email address for the user, must be valid
fullName	Subdocument	Subdocument that contains the first and last name of the user which are both strings
posts	Array[String]	Array of post ids the user has posted
comments	Array[String]	Array of comment ids the user has commented on other posts
classes	Array[String]	Array of the classes the user is currently taking



## 4 Classes Collection

### 4.1 Description

The users collection will hold the data for each user including the `_id`, `email`, `username`, `password`, `fullName`, `posts`, `comments` under other users' posts, and a list of classes they are currently taking.

### 4.2 Sample Classes JSON

```
1 userCollection: [  
2   {  
3     "_id": ObjectId("7b7997a2-c0d2-4f8c-b27a-6a1d4b5b6310"),  
4     "email": "validEmail@address.com",  
5     "fullName": {"firstName": "Eric", "lastName": "Altenburg"},  
6     "posts": ["7b7997a2-c0d2-4f8c-b27a-6a1d4b5b6311", ... , "7  
      ↪ b7997a2-c0d2-4f8c-b27a-6a1d4b5b63134"],  
7     "comments": ["7b7997a2-c0d2-4f8c-b27a-6a1d4b5b6411", ... , "7  
      ↪ b7997a2-c0d2-4f8c-b27a-6a1d4b5b63434"],  
8     "classes": ["8b7997a2-c0d2-4f8c-b27a-6a1d4b5b6411", ... , "8  
      ↪ b7997a2-c0d2-4f8c-b27a-6a1d4b5b63434"]  
9   },  
10  ...,  
11  {  
12    "_id": ObjectId("7b7997a2-c0d2-4f8c-b27a-6a1d4b5b6510"),  
13    "email": "validEmail@address.com",  
14    "fullName": {"firstName": "John", "lastName": "Doe"},  
15    "posts": ["7b7997a2-c0d2-4f8c-b27a-6a1d4b5b6511", ... , "7  
      ↪ b7997a2-c0d2-4f8c-b27a-6a1d4b5b63534"],  
16    "comments": ["8b7997a2-c0d2-4f8c-b27a-6a1d4b5b6511", ... , "8  
      ↪ b7997a2-c0d2-4f8c-b27a-6a1d4b5b63534"],  
17    "classes": ["8b7997a2-c0d2-4f8c-b27a-6a1d4b5b6411", ... , "8  
      ↪ b7997a2-c0d2-4f8c-b27a-6a1d4b5b63434"]  
18  }  
19 ]
```

### 4.3 Classes Table

Name	Type	Description
_id	ObjectId	Automatically generated
email	String	Email address for the user, must be valid
fullName	Subdocument	Subdocument that contains the first and last name of the user which are both strings
posts	Array[String]	Array of post ids the user has posted
comments	Array[String]	Array of comment ids the user has commented on other posts
classes	Array[String]	Array of the classes the user is currently taking

## **5 Github Repository**

<https://github.com/hniz/Lighthouse>