

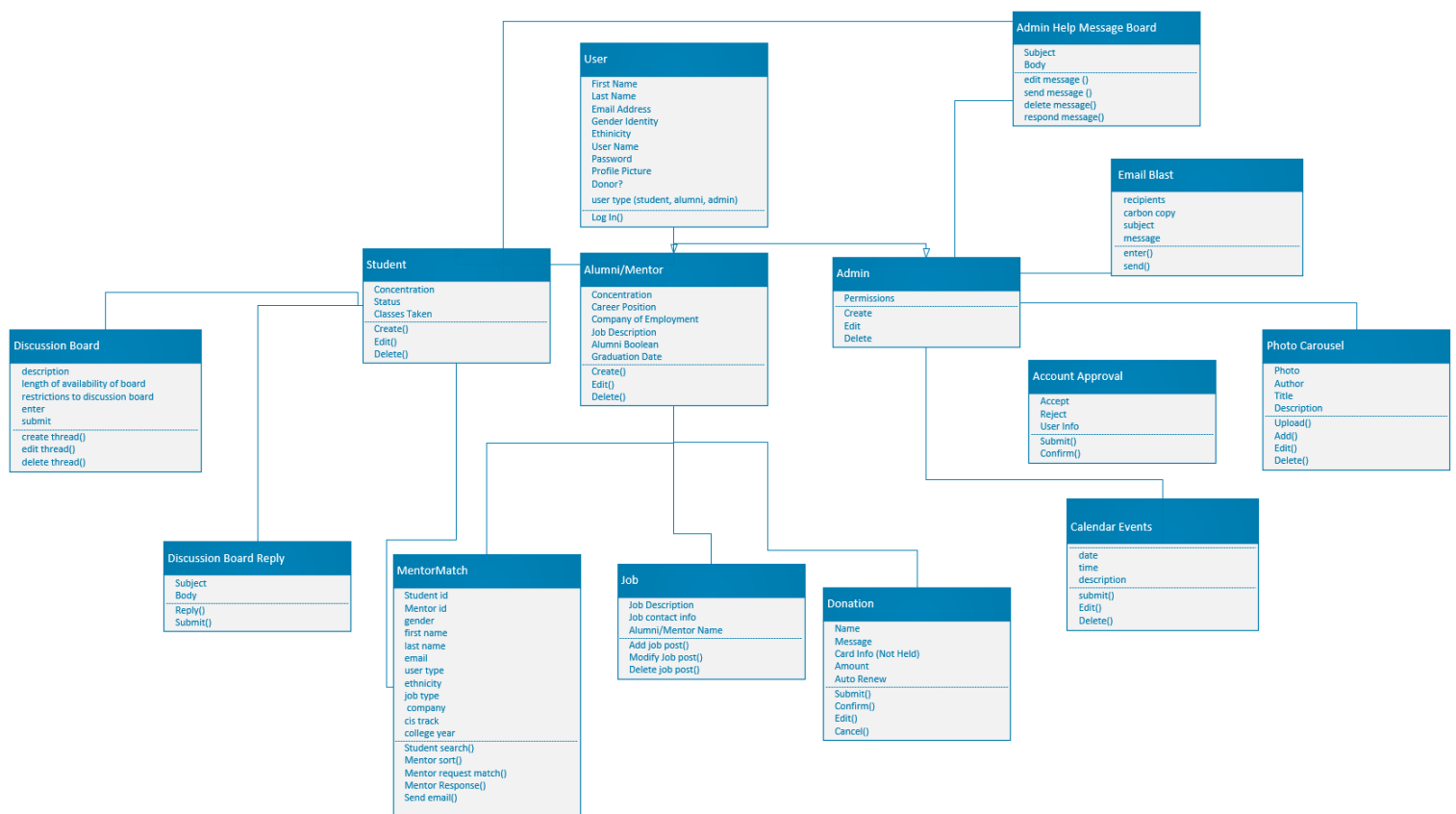
## Group 4 Zu Ming

### Iteration 5

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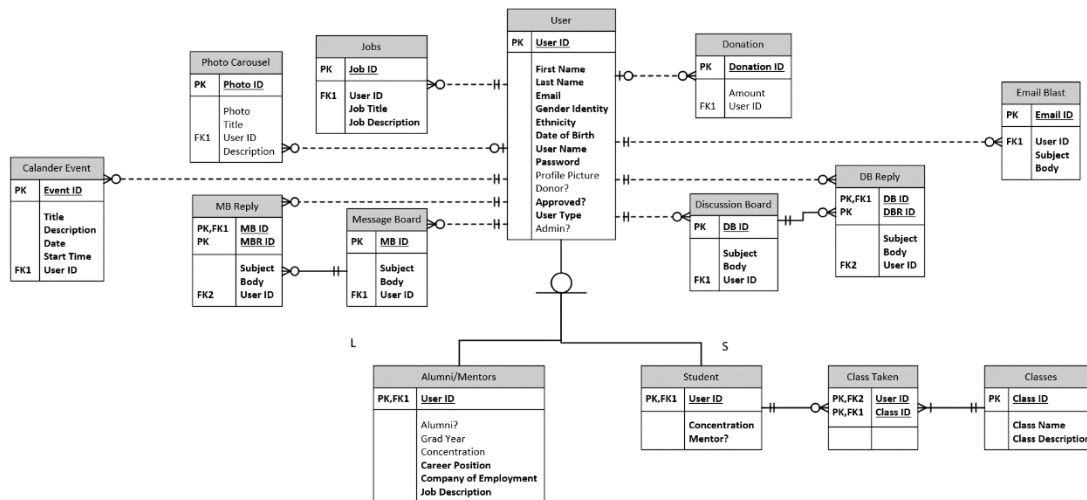
#### Class Diagram:

Here is our class diagram primarily composed from verb noun analysis. The main centerpiece in this is the abstract “User” class which holds most information from users in these attributes. These attributes are inherited by student, alumni/mentors, and administrators which have differing permissions / information that is collected specifically regarding their position on the site. From here on we added classes that interact with different types of users within the site and drew connections between the two to illustrate which classes interact with each other.



### 3NF ERD:

Here is our 3<sup>rd</sup> normal form entity relationship diagram. To get to third normal form a table must achieve first normal form which is when there are no repeating fields, and the number of columns does not differ from record to record. Before you can achieve the third normal you must achieve second normal form which is when a first normal form diagram is not made up from a primary key that comes from multiple fields and contains no partial dependencies. Finally, one must convert second normal form to third normal form where no fields rely on another non primary key and all transitive dependencies are removed.



## Data Dictionary:

User			
Field name	Data type	Constraint	Description
User ID	INT	PRIMARY KEY	The primary key for the user table
First Name	VARCHAR(50)	Null	The first name with a 50 character limit
Last Name	VARCHAR(50)	Null	The last name with a 50 character limit
Email	VARCHAR(65)	Null	The email with a 65 character limit
Gender Identity	VARCHAR(50)	Null	The gender identity with a 50 character limit
Ethnicity	VARCHAR(50)	Null	The ethnicity with a 50 character limit
Date of Birth	DATE	Null	The date of birth stored in julian date format
User Name	VARCHAR(50)	Null	The username with a 50 character limit
Password	VARCHAR(50)	Null	The password with a 50 character limit
Profile Picture	BLOB	Null	The profile picture stored in mysql blob format
Donor?	SMALLINT	Null	A bool value for if user has donated before stored in smallint where 0 is no and 1 is yes
Approved?	SMALLINT	Null	A bool value for if the user has been approved by an admin yet stored in smallint where 0 is no and 1 is yes
Admin?	SMALLINT	Null	A bool value for if the user is an admin and will be granted admin premissions stored in smallint where 0 is no and 1 is yes
UserType	CHAR(1)	Null	This the user type. L is for alumni S is for student it is stored with a single character limit

Alumni/Mentors			
Field name	Data type	Constraint	Description
User_ID	INT	PRIMARY KEY, FOREIGN KEY	The foreign key from user that is also the primary key for Alumni/mentors that is stored as an int
Alumni?	SMALLINT	Null	A bool value for if user is Alumn stored in smallint where 0 is no and 1 is yes
Grad Year	DATE	Null	The date of graduation stored in mysql julian date format
Concentration	VARCHAR(50)	Null	The persons concentration stored with a 50 character limit
Career Position	VARCHAR(100)	Null	The persons job title stored with a 100 character limit
Company of Employeemnt	VARCHAR(100)	Null	The company where the person works with a 100 character limit
Job Desc	VARCHAR(1000)	Null	A brief description of what they do at their job with a 1000 character limit

Student			
Field Name	Data Type	Constraint	Description
User ID	INT	Primary Key, Foreign Key 1	Primary Key that tells the identity of the user/student. Is a child of User
Concentration	VarChar(50)	Null	Tells the Concentration the Student is studying
Mentor?	Small INT	Null	Boolean Value that says if the students wants to mentor

### Class Taken

Field Name	Data Type	Constraint	Description
User ID	INT	Primary Key, Foreign Key 1	User ID from student table. Middle table to connect classes and students.
Class ID	INT	Primary key, Foreign Key 2	Class ID from classes table. Middle table to connect classes and students.

### Classes

Field Name	Data Type	Constraint	Description
Class ID	INT	Primary Key	Class number acting as the primary key
Class Name	VarChar(30)	NULL	Class name that describes the class
Class Description	VarChar(300)	NULL	Describes the purpose of the class in greater detail for the benefit of the uninformed reader.

### Jobs

Field name	Data type	Constraint	Description
Job ID	INT	PRIMARY KEY	The primary key for the jobs table stored in a INT
User ID	INT	FOREIGN KEY	The foreign key from the user table stored in a int
Job Title	VARCHAR(100)	Null	The title of the job with a 100 character limit
Job description	VARCHAR(1000)	Null	The job description with a 1000 character limit

### Donation

Field Name	Data Type	Constraint	Description
Donation ID	INT	Primary Key	Indicates which donation this is.
Amount	VarChar(10,2)	NULL	Indicates the amount the donation is for.
User ID	INT	Foreign Key	Indicates the person who donated it.

### Photo Carousel

Field name	Data type	Constraint	Description
Photo ID	INT	PRIMARY KEY	The primary key for the photo carousel table stored as an INT
Photo	BLOB	Null	The picture stored in mysql blob format
Title	VARCHAR(50)	Null	The title of the picture with a 50 character limit
User ID	INT	FORIGEN KEY	The foreign key from the user table stored as int
Description	VARCHAR(255)	Null	The description of the photo in the carousel with a 255 character limit

### Email Blast

Field Name	Data Type	Constraint	Description
Email ID	INT	Primary Key	Primary Key for the Email Blast table
User ID	INT	Foreign Key	Foreign Key showing the Author of the table
Subject	VarChar(300)	NULL	VarChar with a 300 character limit showing the subject of the email
Body	Varchar(100000)	NULL	VarChar with a 100,000 character limit showing the body of the email.

### Calander Event

Field name	Data type	Constraint	Description
Event ID	INT	PRIMARY KEY	The primary key for the calender table stored as INT
Title	VARCHAR(50)	Null	The title of the calender event with a 50 character limit
Description	VARCHAR(255)	Null	The description for the calender event with a 255 character limit
Date	DATE	Null	The date for the calender event store in julian date format
Start Time	TIMESTAMP	Null	The specific time for calender event stored in mysql TIMESTAMP
User ID	INT	FORIGEN KEY	The foreign key from the user table stored as int

### Discussion Board

Field Name	Data Type	Constraint	Description
DB ID	INT	Primary Key	Indicates which discussion board this is.
Subjet	VarChar(300)	NULL	A brief over view of what the board is about.
Body	VarChar(10000)	NULL	The body of text in the discussion board
User ID	INT	Foreign Key 1	The author of the discussion board.

### DB Reply

Field Name	Data Type	Constraint	Description
DB ID	INT	Primary Key Foreign Key1	Indicates which discussion board this is.
DBR ID	INT	Primary Key	Indicates which discussion board reply this is.
Subject	VarChar(300)	NULL	A brief over view of what the board is about.
Body	VarChar(10000)	NULL	The body of text in the discussion board
User ID	INT	Foreign Key 2	The author of the discussion board reply

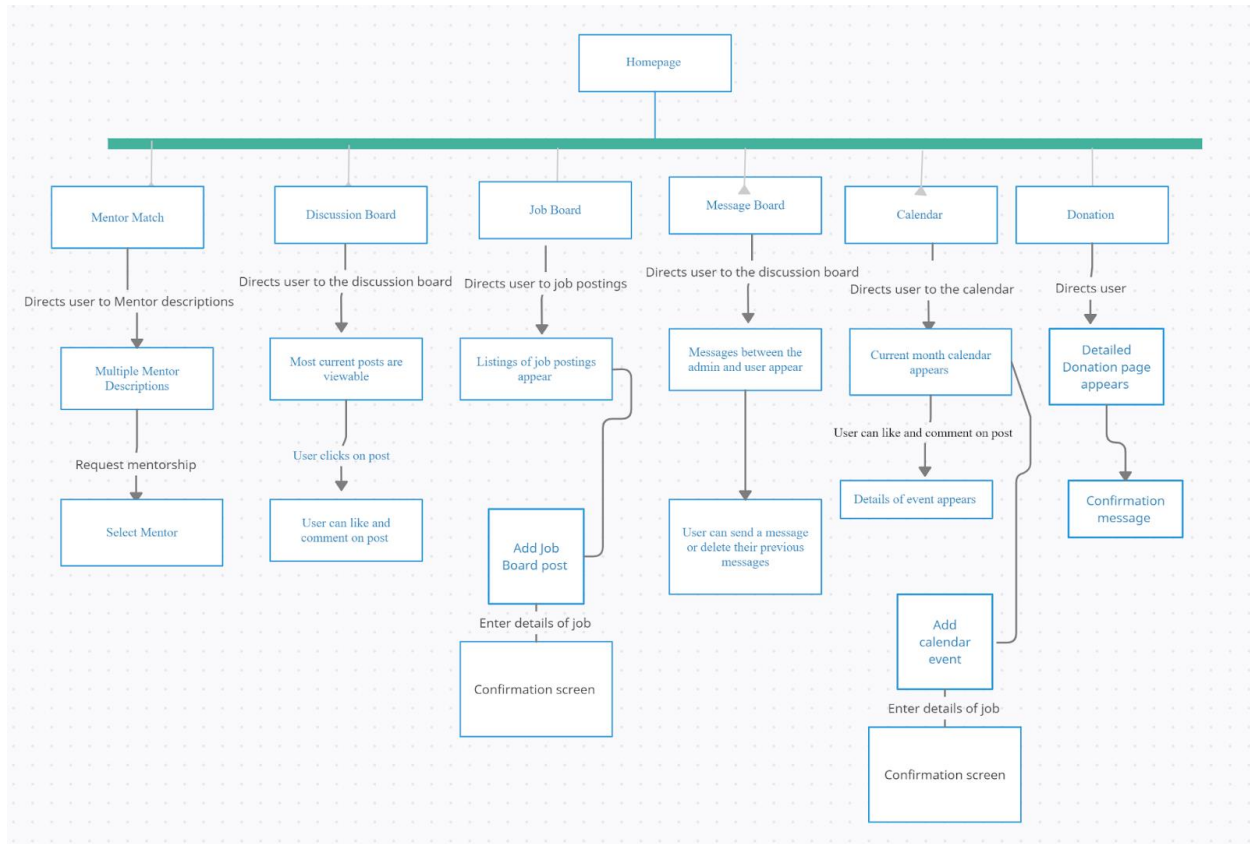
### Message Board

Field name	Data type	Constraint	Description
MB ID	INT	PRIMARY KEY	The primary key for the message board stored as an int
Subject	VARCHAR(100)	Null	The subject of the message board with 100 character limit
Body	VARCHAR(10000)	Null	The body of the message board with a 10000 character limit
User ID	INT	FORIGEN KEY	The foreign key from the user table stored as int

### Message Board Reply

Field name	Data type	Constraint	Description
MB ID	INT	PRIMARY KEY, FOREIGN KEY	The foreign key from message board that is part of a composite primary key for message board reply that is stored as an int
MBR	INT	PRIMARY KEY	The second part of the composite primary key for message board reply stored as an int
Subject	VARCHAR(100)	Null	The subject of the reply with 100 character limit
Body	VARCHAR(10000)	Null	The body of the message board with a 10000 character limit
User ID	INT	FORIGEN KEY	The second foreign key from the user table stored as int

**User interface navigation diagram and screen layouts:** This window navigation diagram is a top-down diagram. This demonstrates users starting on the home page and then having the options of: Mentor Match, Discussion Board, Job Board, Message Board, Calendar, and Donation. After the user chooses which page to enter, there are many interactive options on each page.



**User interface prototype:**

## COBWeb Gantt Chart

ID	Task Name	Start	Finish	Duration	Task Assignment	March 2021				April 2021				May 2021										
						7/3	14/3	21/3	28/3	4/4	11/4	18/4	25/4	2/5	9/5	16/5	23/5	30/5						
1	Assignment 3	3/11/2021	3/21/2021	11d	Whole Group	<div><div></div></div>																		
2	Use Cases	3/11/2021	3/21/2021	11d	Whole Group	<div><div></div></div>																		
3	Use Case Diagram	3/11/2021	3/21/2021	11d	Whole Group	<div><div></div></div>																		
4	Prototypes	3/11/2021	3/21/2021	11d	Whole Group	<div><div></div></div>																		
5	Class Diagram	3/11/2021	3/21/2021	11d	Whole Group	<div><div></div></div>																		
6	Sequence Diagram	3/11/2021	3/21/2021	11d	Whole Group	<div><div></div></div>																		
7	Iteration 5	3/30/2021	4/11/2021	13d	Whole Group	<div><div></div></div>																		
8	Class Diagram	4/1/2021	4/1/2021	1d	Jacob Forcht, Bradley Layten	<div><div></div></div>																		
9	Database Design and Data Definitions	4/6/2021	4/9/2021	4d	Jacob Forcht, Bradley Layten	<div><div></div></div>																		
10	User Interface, Navigation Diagram and Screen Layouts	4/8/2021	4/10/2021	3d	Vidhi Desai, Kali McHugh	<div><div></div></div>																		
11	Gantt Chart	4/5/2021	4/7/2021	3d	Alex Tran	<div><div></div></div>																		
12	Use Interface Prototype	4/7/2021	4/10/2021	4d	Whole Group	<div><div></div></div>																		
13	Elaboration Spec	3/11/2021	4/20/2021	41d		<div><div></div></div>																		
14	System Requirements	3/4/2021	3/4/2021	1d		<div><div></div></div>																		
15	Use Case Diagram	3/4/2021	3/4/2021	1d		<div><div></div></div>																		
16	Trace Matrix	3/4/2021	3/4/2021	1d		<div><div></div></div>																		
17	Use Cases	3/4/2021	3/4/2021	1d		<div><div></div></div>																		
18	Sequence Diagrams	3/4/2021	3/4/2021	1d		<div><div></div></div>																		
19	Class Diagram(s)	3/4/2021	3/4/2021	1d		<div><div></div></div>																		