

COM1025 Web and Database Systems

Coursework Assignment: General Society Database & Website

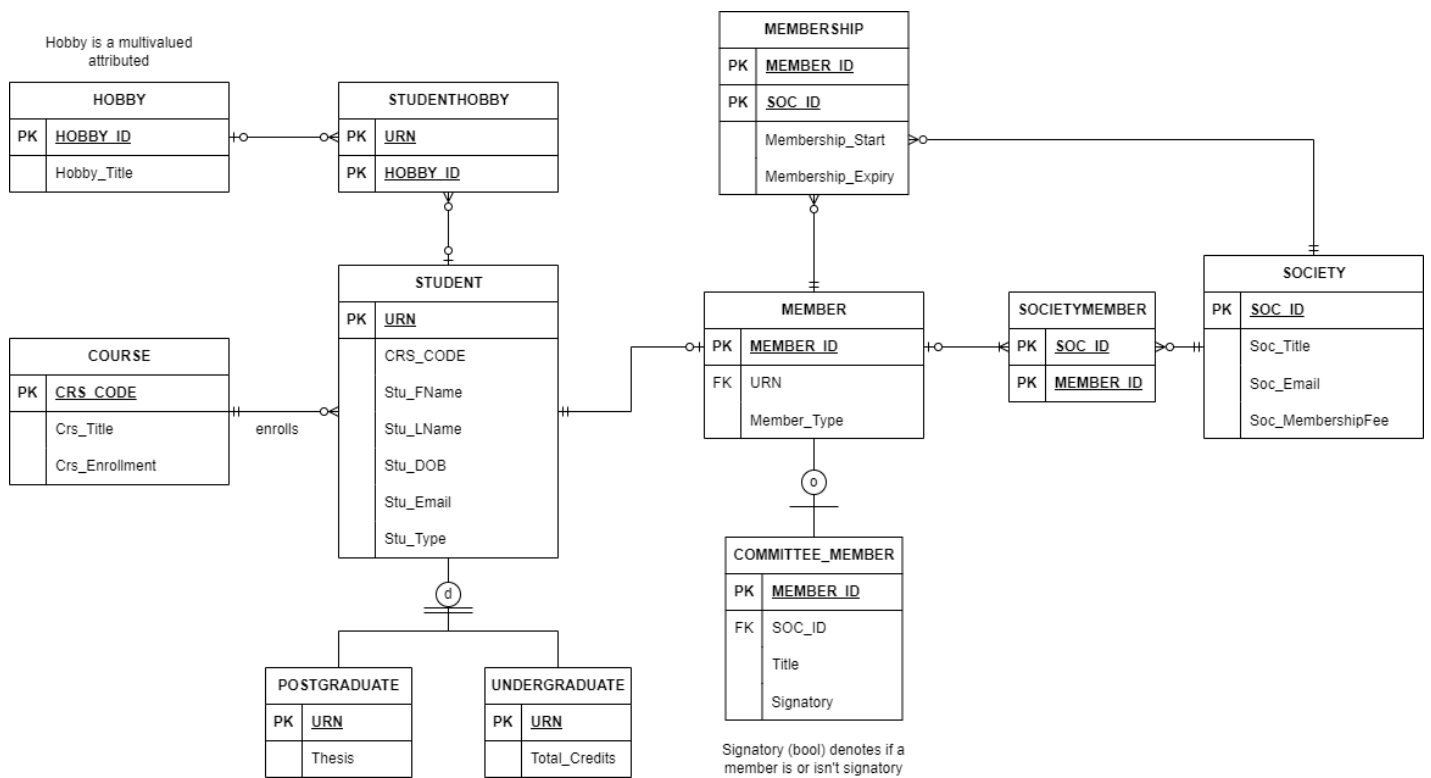
URN: 6845279
Username: dm01508
Date: 01/12/2023

1 Business Rules and Assumptions

1. A university offers courses and has two categories of students: undergraduates and postgraduates.
2. The university needs to store the following details about each student: name, date of birth, a phone number, and what course they are on.
3. A student must be a postgraduate or an undergraduate, but they cannot be both at the same time.
4. A student must be enrolled on one and only one course while a course can enrol no student or many students.
5. A course has a course code, name and enrolment (total number of students on the course)
6. The university also wants to keep data on hobbies of students if they wish to provide that information so that appropriate clubs and societies can be suggested to them.
7. A student can have no hobby or can have many hobbies.
8. A hobby can be related to no student or to many students. The current list of hobbies include reading, hiking, chess, Taichi, ballroom dancing, football, Tennis, Rugby, climbing, rowing.
9. A student can be a member of one or more societies or not be a member at all.
10. A member can be a committee member.
11. A member must be in a society.
12. A society does not have to have committee members.
13. A member can only join one committee.
14. A member can have many paid memberships to a society.

2 Extended Entity Relationship Diagram (EERD)

Draw.IO Diagram:



3 Logical Relational Database Schema

Course(Crs_Code, Crs_Title, Crs_Enrollment)

PRIMARY KEY: Crs_Code

Student(URN, Stu_FName, Stu_LName, Stu_DOB, Stu_Email, Stu_Course, Stu_Type)

PRIMARY KEY: URN

FOREIGN KEY: Stu_Course REFERENCES Course(Crs_Code)

Postgraduate(URN, Thesis)

PRIMARY KEY: URN

FOREIGN KEY: URN REFERENCES Student(URN)

Undergraduate(URN, Total_credits)

PRIMARY KEY: URN

FOREIGN KEY: URN REFERENCES Student(URN)

Hobby(HOBBY_ID, Hobby_Title)

PRIMARY KEY: HOBBY_ID

StudentHobby(URN, HOBBY_ID)

PRIMARY KEY: URN, HOBBY_ID

FOREIGN KEY: URN REFERENCES Student(URN), HOBBY_ID REFERENCES

Hobby(HOBBY_ID)

Members(MEMBER_ID, URN, Member_Type)

PRIMARY KEY: MEMBER_ID

FOREIGN KEY: URN REFERENCES Student(URN)

Committee_Member(MEMBER_ID, SOC_ID, Title, Signatory)

PRIMARY KEY: MEMBER_ID

FOREIGN KEY: MEMBER_ID REFERENCES Members(MEMBER_ID), SOC_ID REFERENCES Society(SOC_ID)

Society(SOC_ID, Soc_Title, Soc_Email, Soc_MembershipFee)

PRIMARY KEY: SOC_ID

SocietyMember(SOC_ID, MEMBER_ID)

PRIMARY KEY: SOC_ID, MEMBER_ID

FOREIGN KEY: SOC_ID REFERENCES Society(SOC_ID), MEMBER_ID REFERENCES Members(MEMBER_ID)

Membership(MEMBER_ID, SOC_ID, Membership_Start, Membership_Expiry)

PRIMARY KEY: MEMBER_ID, SOC_ID

FOREIGN KEY: MEMBER_ID REFERENCES Member(MEMBER_ID), SOC_ID REFERENCES Society(SOC_ID)

4 Website Working with MySQL Database

- index.js – runs node server, maintains connection to SQL Server
- views – folder containing partial views for website
 - common – folder containing common ejs templates
 - banner – contains the title banner across each webpage
 - footer – contains the shared footer for each webpage
 - head – contains head element
 - header – contains the shared header for each webpage
 - vhead – contains head element for webpages with an added 'id' directory (view one, update)
 - create.ejs – create page
 - error.ejs – error page
 - index.ejs – homepage
 - societies.ejs – view all page
 - update.ejs – update one page
 - view.ejs – view one page
- public – folder containing static assets
 - main.css – css for the website
 - 1.jpg – society 1 image
 - 2.jpg – society 2 image

5 Advanced Tasks

EERD Advanced Task – Added an additional specialisation hierarchy (MEMBER) which has an overlapping and partial constraint.

SQL – Attempted some challenging SQL queries.

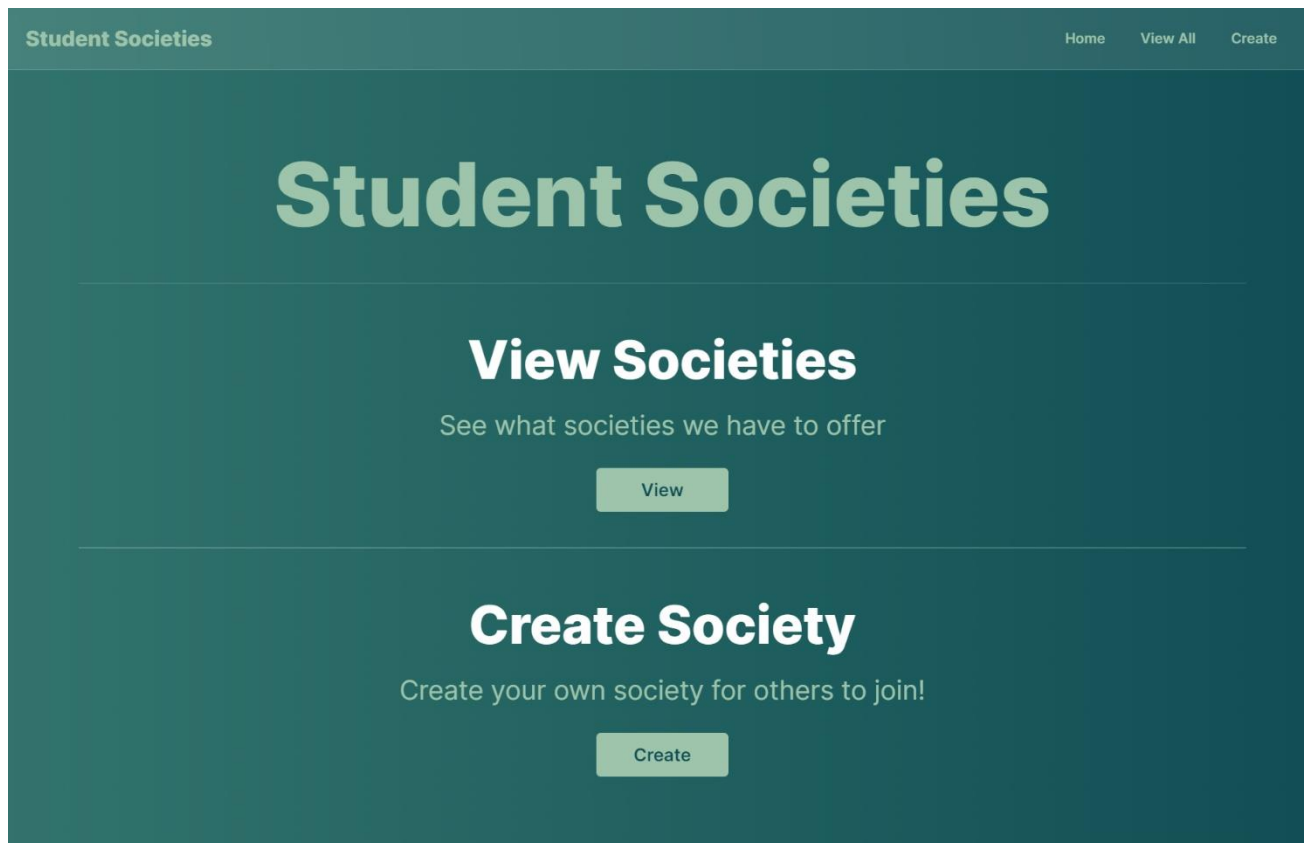
Node.JS, HTML – Added functionality to create new rows of data.

Node.JS, HTML – Added functionality to delete rows of data.

6 References

No references

7 Appendix: Screenshots of Website



Societies (Unofficial)

Copyright © Damy Matuwidi - All Rights Reserved.



Title	Members	Email	Membership Fee	View	Update	Delete
CompSoc	2	ussu.computing@surrey.ac.uk	£5.50 p/m	View	Update	Delete
ChessSoc	2	ussu.chess@surrey.ac.uk	£7.50 p/m	View	Update	Delete

Societies (Unofficial)

Copyright © Damy Matuwidi - All Rights Reserved.

CompSoc



CompSoc

Members: 2**Email:** ussu.computing@surrey.ac.uk**Membership Fee:** £5.50 p/m**Signatories:** Pierre Gervais (**Vice**), Patrick O'Hara (**Chairman**),
Committee:

Update CompSoc



CompSoc

Society Title:

Email:

Membership Fee:

Create Society

Create Society

Society Title:

Email:

Membership Fee:

Image

 No file chosen

```

+-----+-----+-----+
| Society | Memberships | Membership Income |
+-----+-----+-----+
| ChessSoc |          1 |           7.50 |
+-----+-----+-----+
1 row in set (0.02 sec)

```

```

+-----+-----+-----+
| Name | Number | Hobby |
+-----+-----+-----+
| Pierre Gervais | 01483223344 | Chess |
+-----+-----+-----+
1 row in set (0.03 sec)

```

```

+-----+-----+-----+
| Name | Committee | Signatory |
+-----+-----+-----+
| Pierre Gervais | CompSoc | Yes |
| Patrick O'Hara | CompSoc | Yes |
| Iyabo Ogunsola | ChessSoc | No |
+-----+-----+-----+
3 rows in set (0.01 sec)

```