

CS2102 Project Report

Preliminary Report Week 5

Group 10



NUS Facility Booking™
Reserve your place now.

Team

Anirup Sengupta	A0091565Y
Baggavalli Raju Shekhar	A0088669A
Bathini Yatish	A0091545A

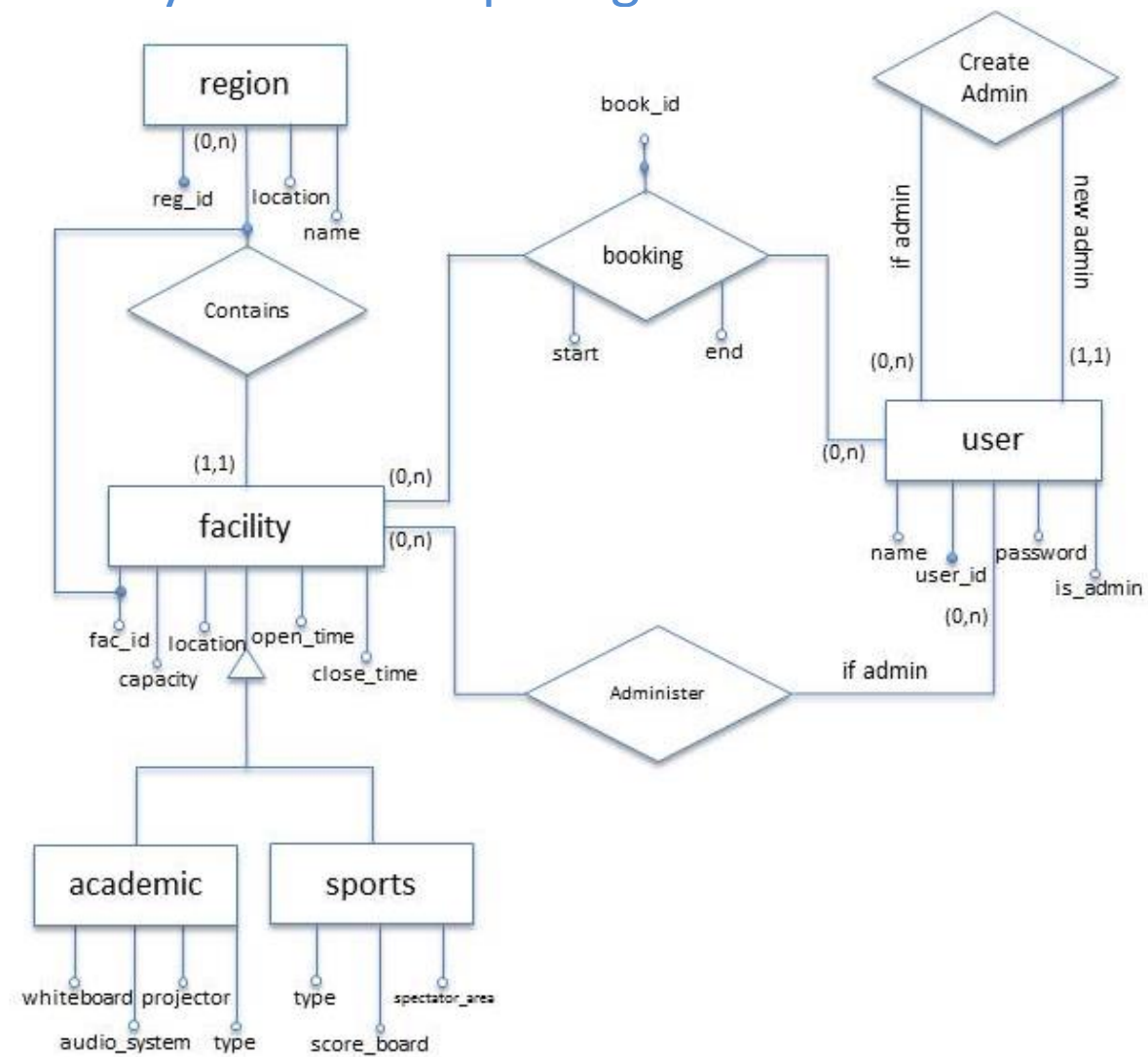
Introduction

NUS Facilities Booking is booking systems that allows NUS students and staff to book academic facilities like seminar rooms, discussion rooms etc as well as sports facilities like badminton and tennis courts. The system has an intuitive and visual search that allows users to search by useful fields like availability, location, capacity and many other criteria to provide relevant suggestions. The system is robust and will users to quickly transit from facility search to booking confirmation.

Contents

Title	Page
ER Diagram	2
DDL Code	3

Entity Relationship Diagram



Terms

Region : The general area within campus e.g. Computing, UTown, Engineering, Central Library etc

Facility : The facility to be booked. This has two sub entities 'Academic' e.g. Discussion Room CLB-1, Seminar Room E4-0302, Mac Commons Room 3 etc and 'Sports' e.g. Badminton Court 2, Squash Court 4 etc.

User : Table of all user i.e. students and staff. Among these users, admins can be created by setting is_admin to true

Booking : Booking a relationship that stores all the bookings and tracks their id, start and end time.

DDL Code

```
CREATE TABLE region (  
  reg_id CHAR(10) PRIMARY KEY,  
  name VARCHAR(256) NOT NULL,  
  location VARCHAR(256)  
);
```

```
CREATE TABLE user (  
  user_id CHAR(8) PRIMARY KEY,  
  name VARCHAR(32) NOT NULL,  
  password CHAR(32) NOT NULL,  
  is_admin BOOLEAN  
);
```

```
CREATE TABLE facility (  
  fac_id CHAR(10),  
  reg_id CHAR(10),  
  open_time TIME NOT NULL,  
  close_time TIME NOT NULL,  
  location VARCHAR(256) NOT NULL,  
  capacity INT,  
  FOREIGN KEY (reg_id) REFERENCES region(reg_id) ON DELETE CASCADE,  
  PRIMARY KEY (fac_id, reg_id),  
  CHECK(close_time > open_time)  
);
```

```
CREATE TABLE booking (  
  book_id CHAR(10),  
  fac_id CHAR(10),  
  reg_id CHAR(10),  
  user_id CHAR(10),  
  start DATETIME NOT NULL,  
  end DATETIME NOT NULL,  
  FOREIGN KEY (fac_id) REFERENCES facility(fac_id) ON DELETE CASCADE,  
  FOREIGN KEY (reg_id) REFERENCES region(reg_id) ON DELETE CASCADE,  
  FOREIGN KEY (user_id) REFERENCES user(user_id) ON DELETE CASCADE,  
  PRIMARY KEY (book_id),  
  CHECK (end > start)  
);
```

```
CREATE TABLE academic (  
  fac_id CHAR(10),  
  reg_id CHAR(10),  
  whiteboard BOOLEAN,  
  audio_system BOOLEAN,  
  projector BOOLEAN,  
  type VARCHAR(100),  
  FOREIGN KEY (fac_id) REFERENCES facility(fac_id) ON DELETE CASCADE,  
  FOREIGN KEY (reg_id) REFERENCES region(reg_id) ON DELETE CASCADE,  
  PRIMARY KEY (fac_id,reg_id)  
);
```

```
CREATE TABLE sports (  
  fac_id CHAR(10),  
  reg_id CHAR(10),  
  scoreboard BOOLEAN,  
  spectator_area BOOLEAN,  
  type VARCHAR(100),  
  FOREIGN KEY (fac_id) REFERENCES facility(fac_id) ON DELETE CASCADE,  
  FOREIGN KEY (reg_id) REFERENCES region(reg_id) ON DELETE CASCADE,  
  PRIMARY KEY (fac_id,reg_id)  
);
```