

DATABASE PROJECT

COURSE DETAILS

- **Course** - CS385: Applied Database Management
- **Instructor** - Dr. Nicole Anderson
- **Date** - 12/11/2018
- **Contributors** - Kyle Aure and Andrew Poss

DATABASE DESIGN

WHAT CATEGORIES?

1. Campers
2. Camps
3. Emergency Contacts
4. Fees

WHAT DATA?

For **campers** we need

fName, lName, age, email, member status,
emergencyContact

GENERAL RELATIONSHIPS

- **Camper:camperID** → fName, lName, age, email, memberStatus, emergencyContact,
- **Camp:campAbr** → campName, description, feeRate, ageRange, sessionNo, startDate, endDate, am_pm
- **EmergencyContact:contactNo** → fName, lName, phoneNum
- **Fee:feeRate** → nonMember, member, payStatus

NORMALIZATION

To get to 3rd normal form we needed to get rid of
Partial and **Transitive** dependencies.

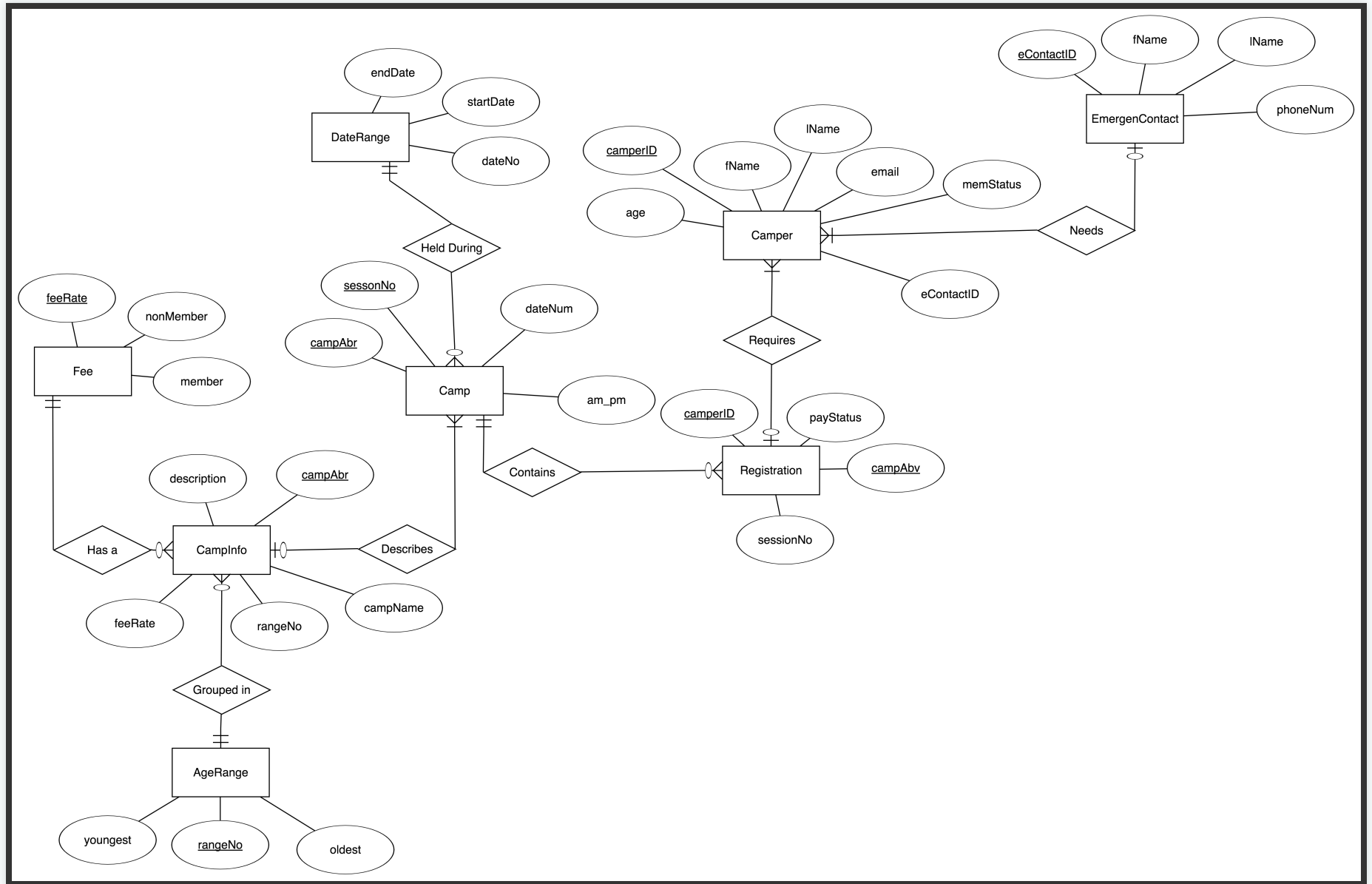
INDEPENDENT FR

- **EmergencyContact:eContactID** → fName, lName, phoneNum
- **AgeRange:rangeNo** → youngest, oldest
- **Fee:feeRate** → nonMember, member
- **DateRange:dateNo** → startDate, endDate

DEPENDENT FR

- **Camper:camperID** → fName, lName, age, email, memberStatus, *eContactID*
- **CampInfo:campAbr** → campName, description, feeRate, *rangeNo*
- **Camp:campAbr + sessionNo** → *dateNo*, am_pm
- **Registration:camperID + campAbr + sessionNo** → payStatus

ER DIAGRAM



DATABASE MODEL

Our functional relationships already resembled tables with primary and foreign keys.

Therefore, we decided to use a **Relational Database**.

SCHEMA

INDEPENDENT TABLES

EmergencyContact Table

```
CREATE TABLE EmergencyContact (  
    eContactID INTEGER PRIMARY KEY  
                        UNIQUE,  
    fName       STRING,  
    lName       STRING,  
    phoneNum    STRING  
);
```

DEPENDENT TABLES

Registration Table

```
CREATE TABLE Registration (  
    camperID INTEGER REFERENCES Camper (camperID),  
    campAbr STRING,  
    sessionNo INTEGER,  
    payStatus BOOLEAN,  
    PRIMARY KEY (  
        camperID ASC,  
        campAbr ASC,  
        sessionNo ASC  
    )  
    ON CONFLICT ROLLBACK,  
    FOREIGN KEY (  
        campAbr,  
        sessionNo  
    )  
    REFERENCES Camp (campAbr
```

QUERIES AND RESULTS

In total we wrote 10 different queries on our database for various business applications.

PAYMENTS

```
CREATE VIEW PaidAC AS
  SELECT campAbr,
         payStatus
  FROM Registration
 WHERE camperID IN (
    SELECT camperID
    FROM Camper
    WHERE fName = 'Astrid' AND
          lName = 'Cleveland'
  );
```

PaidAC (CampRegDatabase)

Query

Data

Triggers

DDL

Grid view

Form view

1

Total rows loaded: 2

	campAbr	payStatus
1	NB	TRUE
2	NP	TRUE

JUNE SESSIONS

```
CREATE VIEW [June Sessions] AS
  SELECT CampInfo.campName,
         Camp.campAbr,
         Camp.sessionNo,
         DateRange.startDate,
         DateRange.endDate
  FROM Camp
       INNER JOIN
       CampInfo ON Camp.campAbr = CampInfo.campAbr
       INNER JOIN
       DateRange ON Camp.dateNo = DateRange.dateNo
 WHERE DateRange.startDate LIKE '6/%_/_';
```

Query

Data

Triggers

DDL

Grid view

Form view



1



Total rows loaded: 38

	campName	campAbr	sessionNo	startDate	endDate
1	Nature's Neighborhoods	NN	3	6/18/18	6/22/18
2	Nature's Neighborhoods	NN	5	6/25/18	6/29/18
3	Nature's Neighborhoods	NN	6	6/25/18	6/29/18
4	Mission Explore	ME	1	6/11/18	6/15/18
5	Mission Explore	ME	3	6/18/18	6/22/18
6	Mission Explore	ME	5	6/25/18	6/29/18
7	Mission Explore	ME	2	6/11/18	6/15/18
8	Mission Explore	ME	4	6/18/18	6/22/18
9	Mission Explore	ME	6	6/25/18	6/29/18
10	Swamp Gas	SG	1	6/11/18	6/15/18
11	Swamp Gas	SG	3	6/18/18	6/22/18
12	Swamp Gas	SG	2	6/11/18	6/15/18
13	Swamp Gas	SG	4	6/18/18	6/22/18
14	Fur-ology Fun	FF	1	6/11/18	6/15/18
15	Fur-ology Fun	FF	3	6/18/18	6/22/18
16	Fur-ology Fun	FF	5	6/25/18	6/29/18
17	Fur-ology Fun	FF	2	6/11/18	6/15/18
18	Fur-ology Fun	FF	4	6/18/18	6/22/18
19	Fur-ology Fun	FF	6	6/25/18	6/29/18
20	Nature Biker	NB	3	6/18/18	6/22/18
21	Nature Biker	NB	4	6/18/18	6/22/18
22	Geology Rocks	GR	3	6/18/18	6/22/18
23	Nature Photography	NP	5	6/25/18	6/29/18
24	Nature Photography	NP	2	6/11/18	6/15/18
25	Nature Photography	NP	4	6/18/18	6/22/18

CONTRIBUTIONS

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Thank you for your time.