Language Practice Management System

Final Project Presentation

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Previous Logical Model

- This is an application for tracking bird observations. A birdwatching session is a one-hour period in which a birdwatcher notes the presence of birds. The session has a location (its "zone") and a setting (urban, for instance).
  - Session = ternary relationship
- The organization using this application has a number of birdwatcher members, some of whom are employees or volunteers. Each birdwatcher has a home zone; each zone has a leader.
  - Member has multiple subclasses
  - Zone / leader is a 1-to-1 relationship
- The birds in the database also have their food preferences recorded.
  - ‘Bird food preferences’ is a many-to-many relationship
Previous Logical Model
Our Current Logical Model

- Functions as a database that tracks language-focused medical “sessions” between clinicians and patients. A session includes a date, a location, a clinician, and a patient, and results in a single disorder classification.
  - Session = ternary relationship

- This organization includes clinicians and patients. It also includes locations of various types (clinics, schools); each location is associated with a head clinician.
  - Clinicians and patients = subclasses with views; member = superclass (no view necessary)
  - Location / head clinician is a one-to-one relationship
  - Location type is a reference table

- This application also contains information about various language disorders, in particular which linguistic competencies are affected by a given disorder.
  - Disorders and associated competencies = many-to-many relationship; includes association table
Our Current Logical Model
View/Triggers DDL File

- Creates two subclasses
- There is no separate view for the superclass
  - It was unnecessary for this application
View/Triggers DDL File

drop view FP_SLP_view;
drop view FP_Patient_view;

create view FP_SLP_view as
SELECT
    Member_ID,
    Last_name,
    First_name,
    Address1,
    Address2,
    City,
    State,
    Zip,
    Phone,
    Hourly_Fee,
    type
FROM FP_Member where type = 'FP_SLP';

create or replace TRIGGER FP_SLP_trigger
INSTEAD OF insert ON FP_SLP_view
FOR EACH ROW

BEGIN
    insert into FP_Member(
        Last_name,
        First_name,
        Address1,
        Address2,
        City,
        State,
        Zip,
        Phone,
        Hourly_Fee,
        type)
VALUES (:NEW.Last_name,
        :NEW.First_name,
        :NEW.Address1,
        :NEW.Address2,
        :NEW.City,
        :NEW.State,
        :NEW.Zip,
        :NEW.Phone,
        :NEW.Hourly_Fee,
        'FP_SLP');
END;
/

create view FP_Patient_view as
SELECT
    Member_ID,
    Last_name,
    First_name,
    Address1,
    Address2,
    City,
    State,
    Zip,
    Phone,
    Copay,
    type
FROM FP_Member where type = 'FP_Patient';

create or replace TRIGGER FP_Patient_trigger
INSTEAD OF insert ON FP_Patient_view
FOR EACH ROW

BEGIN
    insert into FP_Member(
        Last_name,
        First_name,
        Address1,
        Address2,
        City,
        State,
        Zip,
        Phone,
        Copay,
        type)
VALUES (:NEW.Last_name,
        :NEW.First_name,
        :NEW.Address1,
        :NEW.Address2,
        :NEW.City,
        :NEW.State,
        :NEW.Zip,
        :NEW.Phone,
        :NEW.Copay,
        'FP_Patient');
END;
/
DML File Sample

- Started out with at least 4 values per table/view
- Dates are formatted universally
---disable triggers
alter trigger FP_Disorder_Dis_ID_TRG disable;
alter trigger FP_Ling_Comp_LD_ID_TRG disable;
alter trigger FP_Loc_Type_Loc_Type_ID_TRG disable;
alter trigger FP_Location_Loc_ID_TRG disable;
alter trigger FP_Member_Member_ID_TRG disable;
alter trigger FP_Session_Session_ID_TRG disable;

--- disable FK constraints
alter table FP_Dis_Comp disable CONSTRAINT FK_ASS_106;
alter table FP_Dis_Comp disable CONSTRAINT FK_ASS_107;
alter table FP_Location disable CONSTRAINT R101;
ALTER TABLE FP_Session disable CONSTRAINT R102;
ALTER TABLE FP_Session disable CONSTRAINT R103;
ALTER TABLE FP_Location disable CONSTRAINT R109;
ALTER TABLE FP_Session disable CONSTRAINT R113;
ALTER TABLE FP_Session disable CONSTRAINT R114;

---Truncate tables
truncate table FP_Member;
truncate table FP_Session;
truncate table FP_Location;
truncate table FP_Loc_Type;
truncate table FP_Disorder;
truncate table FP_Dis_Comp;
truncate table FP_Ling_Comp;
--insert FP_Patient_view
insert into FP_Member(Member_ID, Last_name, First_name, Address1, Address2, City, State, Zip, Phone, Copyy, Type)
values(1, 'Adams', 'Reyn', '273 Richard St', null, 'Paris', 'TX', '75468', '2100000000', 20, 'FP_Patient');
insert into FP_Member(Member_ID, Last_name, First_name, Address1, Address2, City, State, Zip, Phone, Copyy, Type)
values(2, 'Schmidt', 'Howard', '1170 Harvard St', null, 'Dripping Springs', 'TX', '78705', '5124722350', 38, 'FP_Patient');
insert into FP_Member(Member_ID, Last_name, First_name, Address1, Address2, City, State, Zip, Phone, Copyy, Type)
values(3, 'Rehm', 'Monica', '12841 E RR 620', null, 'Brushy Creek', 'TX', '78783', '5123255071', 46, 'FP_Patient');
insert into FP_Member(Member_ID, Last_name, First_name, Address1, Address2, City, State, Zip, Phone, Copyy, Type)
values(4, 'McEvoy', 'Patrick', '412 Spring Street', null, 'Austin', 'TX', '78713', '5124088881', 20, 'FP_Patient');

--insert FP_SLP_view
insert into FP_Member(Member_ID, Last_name, First_name, Address1, Address2, City, State, Zip, Phone, Hourly_Fee, Type)
values(5, 'Sanchez', 'Jim', '1500 Pleasantview Road', null, 'Austin', 'TX', '78702', '5123351100', 158, 'FP_SLP');
insert into FP_Member(Member_ID, Last_name, First_name, Address1, Address2, City, State, Zip, Phone, Hourly_Fee, Type)
values(6, 'Roberts', 'Maya', '2238 Mantequilla Ln', 'Apt 76', 'Austin', 'TX', '78701', '5123345676', 258, 'FP_SLP');
insert into FP_Member(Member_ID, Last_name, First_name, Address1, Address2, City, State, Zip, Phone, Hourly_Fee, Type)
values(7, 'Prescott', 'Lola', '556 Rialto Rd', null, 'Dallas', 'TX', '75281', '5123345634', 250, 'FP_SLP');
insert into FP_Member(Member_ID, Last_name, First_name, Address1, Address2, City, State, Zip, Phone, Hourly_Fee, Type)
values(8, 'Fritz', 'Piper', '7686 Pied Piper Ave', null, 'San Antonio', 'TX', '78202', '2108645678', 250, 'FP_SLP');

--insert FP_Session
insert into FP_Session(Session_ID, Session_date, Loc_ID, Dis_ID, Patient_ID, SLP_ID)
values(1, TO_DATE('10-24-2016', 'MM-DD-YYYY'), 1, 1, 1, 5);
insert into FP_Session(Session_ID, Session_date, Loc_ID, Dis_ID, Patient_ID, SLP_ID)
values(2, TO_DATE('10-24-2016', 'MM-DD-YYYY'), 1, 3, 2, 5);
insert into FP_Session(Session_ID, Session_date, Loc_ID, Dis_ID, Patient_ID, SLP_ID)
values(3, TO_DATE('10-28-2016', 'MM-DD-YYYY'), 2, 1, 3, 6);
insert into FP_Session(Session_ID, Session_date, Loc_ID, Dis_ID, Patient_ID, SLP_ID)
values(4, TO_DATE('11-01-2016', 'MM-DD-YYYY'), 3, 2, 1, 7);
Welcome!

This simple database will allow you to keep track of only the sessions you and your fellow physicians have overseen. Each session is marked by a patient, a clinician, and the disorder that the patient was seen for. This will allow you to easily keep up with how many patients are being seen, at what locations, and for what disorders, as well as provide enough identifying information to track further information about your patients in their electronic medical record. Please find below helpful links to add and edit information about patients, disorders, clinicians, and sessions.
Ternary Relationship Select Lists

SQL for pg. 12 - Add Session

```
SELECT DIS_NAME, DIS_ID FROM FP_DISORDER
WHERE DIS_ID NOT IN (SELECT DIS_ID FROM FP_SESSION
                        WHERE SESSION_DATE = :P12_SESSION_DATE
                        AND SLF_ID = :P12_SLF_ID
                        AND PATIENT_ID = :P12_PATIENT_ID)
ORDER BY DIS_NAME
```

Our Application
Interactive Reports: Foreign Key Elimination

```
select loc.LOC_ID, loc.LOC_NAME, loc.ADDRESS1, loc.ADDRESS2, loc.CITY, loc.STATE, loc.ZIP, loc.PHONE,
lt.LOC_TYPE
from FP_LOCATION loc JOIN FP_LOC_TYPE lt on loc.LOC_TYPE_ID = lt.LOC_TYPE_ID
JOIN FP_MEMBER men ON loc.LEADER_ID = men.MEMBER_ID
```
# Interactive Reports: Foreign Key Elimination

## Language Practice Management System

<table>
<thead>
<tr>
<th>Location Name</th>
<th>Address Line 1</th>
<th>Address Line 2</th>
<th>City</th>
<th>State</th>
<th>Zip Code</th>
<th>Phone</th>
<th>Location Type</th>
<th>Head Clinician</th>
</tr>
</thead>
<tbody>
<tr>
<td>Edit Austin High School</td>
<td>564 Learning Lane</td>
<td></td>
<td>Austin</td>
<td>TX</td>
<td>78701</td>
<td>5123442312</td>
<td>School</td>
<td>Maya Roberts</td>
</tr>
<tr>
<td>Edit Austin Language Center</td>
<td>5300 Manchaca Pk</td>
<td>Suite 102</td>
<td>Austin</td>
<td>TX</td>
<td>78741</td>
<td>5125553892</td>
<td>Clinic</td>
<td>Hannah Faulkner</td>
</tr>
<tr>
<td>Edit Fortworth Memorial</td>
<td>5544 Pecan Grove</td>
<td></td>
<td>Dallas</td>
<td>TX</td>
<td>75201</td>
<td>5123456789</td>
<td>Hospital</td>
<td>Lola Prescott</td>
</tr>
<tr>
<td>Edit Lone Star Clinic</td>
<td>3456 S. Presa</td>
<td>Suite 874</td>
<td>San Antonio</td>
<td>TX</td>
<td>78750</td>
<td>2109887345</td>
<td>Clinic</td>
<td>Piper Fritz</td>
</tr>
<tr>
<td>Edit Republic Community Clinic</td>
<td>11984 Research Blvd</td>
<td>Suite 220</td>
<td>Austin</td>
<td>TX</td>
<td>78744</td>
<td>5123389844</td>
<td>Clinic</td>
<td>Reid Serfass</td>
</tr>
<tr>
<td>Edit Southside Clinic</td>
<td>14550 S. Main Street</td>
<td>Suite 500</td>
<td>Austin</td>
<td>TX</td>
<td>78741</td>
<td>5127782188</td>
<td>Clinic</td>
<td>Jim Sanchez</td>
</tr>
</tbody>
</table>

---

**Our Application**

release 1.0 [Set Screen Reader Mode On](#)
Formatted Classic Reports

- Checks the city the location is housed in
- If the location is not in Austin (the headquarters city), then the location is marked as “Remote”
  - A green check is placed next to a location that is deemed remote
  - A red “X” is placed next to a location that is not remote
Formatted Classic Reports

Language Practice Management System

Location Information

<table>
<thead>
<tr>
<th>Location Name</th>
<th>Location Type</th>
<th>Head Clinician</th>
<th>Number of Sessions</th>
<th>Remote Location?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austin High School</td>
<td>School</td>
<td>Maya Roberts</td>
<td>2</td>
<td>✗</td>
</tr>
<tr>
<td>Austin Language Center</td>
<td>Clinic</td>
<td>Hannah Faulkner</td>
<td>1</td>
<td>✗</td>
</tr>
<tr>
<td>Fortworth Memorial</td>
<td>Hospital</td>
<td>Lola Prescott</td>
<td>2</td>
<td>✓</td>
</tr>
<tr>
<td>Lone Star Clinic</td>
<td>Clinic</td>
<td>Piper Fritz</td>
<td>1</td>
<td>✓</td>
</tr>
<tr>
<td>Republic Community Clinic</td>
<td>Clinic</td>
<td>Reid Serfass</td>
<td>3</td>
<td>✗</td>
</tr>
<tr>
<td>Southside Clinic</td>
<td>Clinic</td>
<td>Jim Sanchez</td>
<td>2</td>
<td>✗</td>
</tr>
</tbody>
</table>

Sessions By Location - Click for More Information

Our Application
SQL for pg. 52- Sessions by Clinician chart

```sql
SELECT null,
       (SELECT First_Name || ' ' || Last_Name FROM FP_Member
        WHERE Member_ID = SLP_ID) AS "Name",
       count(*) AS "PatientCount"
FROM FP_Session
GROUP BY SLP_ID
ORDER BY "PatientCount"
```
Charts

Image for pg. 52- Sessions by Clinician chart
Charts

SQL for pg. 28
Location Information
Chart

```
SELECT null as "URL", LOC_NAME, count(s.SESSION_ID) as SessionCount
FROM FP LOCATION 1 JOIN FP_SESSION s ON 1.LOC_ID = s.LOC_ID
GROUP BY 1.LOC_NAME
```
Charts

Language Practice Management System

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<tr>
<td>Austin Language Center</td>
<td>Clinic</td>
<td>Hansa Faulkner</td>
<td>1</td>
<td>✗</td>
</tr>
<tr>
<td>Fortworth Memorial</td>
<td>Hospital</td>
<td>Lisa Prescott</td>
<td>2</td>
<td>✓</td>
</tr>
<tr>
<td>Lone Star Clinic</td>
<td>Clinic</td>
<td>Pipa Fritz</td>
<td>1</td>
<td>✓</td>
</tr>
<tr>
<td>Republic Community Clinic</td>
<td>Clinic</td>
<td>Reid Sertlas</td>
<td>3</td>
<td>✗</td>
</tr>
<tr>
<td>Southside Clinic</td>
<td>Clinic</td>
<td>Jim Sanchez</td>
<td>2</td>
<td>✗</td>
</tr>
</tbody>
</table>

Sessions By Location - Click for More Information

SQL for pg. 28
Location Information Chart
Drill-Downs

SQL for Sessions By Location chart (below) and modal report containing session information (right)

Our Application

Code Editor - SQL Query

```
SELECT s.SESSION_DATE, 
    slp.LAST_NAME || ' ' || slp.FIRST_NAME as "Clinician",
    p.LAST_NAME || ' ' || p.FIRST_NAME as "Patient",
    d.DIS_NAME
FROM FP_SESSION s JOIN FP_PATIENT_VN p ON s.PATIENT_ID = p.MEMBER_ID
    JOIN FP_SLP_VN slp ON s.SLP_ID = slp.MEMBER_ID
    JOIN FP_DISORDER d ON s.DIS_ID = d.DIS_ID
    JOIN FP_LOCATION l ON s.LOC_ID = l.LOC_ID
WHERE l.LOC_NAME = '29_LOC_NAME'
ORDER BY 1 DESC, 2, 3, 4
```
Master-Detail Reports

Custom report listing all competencies associated with the selected disorder

```
SELECT lc_NAME
FROM FP_LING_COMP lc JOIN FP_DIS_COMP dc
ON lc.LC_ID = dc.FP_LING_COMP_LC_ID
WHERE dc.FP_DISORDER_DIS_ID = :P31_DIS_ID

Page Items to Submit
```
“View/Add Disorders and Related Competencies”, page 31

Detail chart listing related competencies

<table>
<thead>
<tr>
<th>Disorder Name</th>
<th>Competencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apraxia</td>
<td>Click for Details</td>
</tr>
<tr>
<td>Brocas Aphasia</td>
<td>Click for Details</td>
</tr>
<tr>
<td>Conduction Aphasia</td>
<td>Click for Details</td>
</tr>
<tr>
<td>Dysarthria</td>
<td>Click for Details</td>
</tr>
<tr>
<td>Dyspraxia</td>
<td>Click for Details</td>
</tr>
<tr>
<td>Global Aphasia</td>
<td>Click for Details</td>
</tr>
<tr>
<td>Primary Progressive Aphasia</td>
<td>Click for Details</td>
</tr>
<tr>
<td>Transcortical Motor Aphasia</td>
<td>Click for Details</td>
</tr>
<tr>
<td>Transcortical Sensory Aphasia</td>
<td>Click for Details</td>
</tr>
<tr>
<td>Wernicke's Aphasia</td>
<td>Click for Details</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Competency Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Speech Production</td>
</tr>
<tr>
<td>Melody/Prosody Production</td>
</tr>
<tr>
<td>Articulation</td>
</tr>
</tbody>
</table>

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Our Application