

ECSE-421 Project 1

Assumptions:

1. We assume that a pregnancy should be related to one and only one couple, but a couple could have multiple pregnancies.
2. We assume that every appointment scheduled should be associated to one and only one existing pregnancy, but a pregnancy can have multiple appointments.
3. We assume that only the midwife currently in charge of the current pregnancy can schedule an appointment.
4. We assume that every appointment can include multiple observation notes, but every observation note should be related to one and only one appointment.
5. We assume that every observation note is written/created by the current main midwife.
6. We assume that an appointment may or may not include any medical test, but every medical test should proceed during one and only one appointment.
7. We assume that every medical test should be assigned to at least one lab technician, but a lab technician may or may not be assigned to a medical test.
8. We assume that a pregnancy may or may not give birth to a baby, but a baby must be related to one and only one pregnancy.
9. We assume that babies might have identical names.
10. We assume it is possible to have multiple online information sessions at the same time .
11. We assume it is possible to have multiple observation notes saved at the same time during an appointment.
12. We assume it is possible to have multiple medical tests scheduled during the same appointment.
13. We assume that a person can be member of multiple couples at the same time.

Restrictions:

1. Every parent (mother or father) should be member of at least one couple entity.
2. Every couple should include at least one biological mother.
3. Only couples who qualify can attend online information sessions at some future date and time depending on the availability of each session.
4. Only couples selected by the institution could be assigned to a specific midwife for the pregnancy.
5. Every pregnancy should have at least one main and one backup midwife.
6. If the due date calculated based on the mother's last menstrual period and the due date based on a dating ultrasound vary, the midwife and the other will choose one of them as the final estimated due date for pregnancy.

Artificial keys:

- Couple id for Couple
- Session id for Online Info Session
- Pregnancy id for Pregnancy
- Baby id for Baby
- Techid for Technician
- Appointment id for Appointment

- Note id for Observation Note
- Test id for Medical Test

Relational Translation

Midwife(practitioner id, hEmail, phone number, name, email)

- Foreign key healthInstitutionEmail (hEmail) references Health Institution. Not null.

MainMidwife(pregnancy id, practitioner id)

- Foreign key pregnancy id references Pregnancy.
- Foreign key practitioner id references Midwife.
- Note: participation constraint can't be enforced.

BackupMidwife(pregnancy id, practitioner id)

- Foreign key pregnancy id references Pregnancy.
- Foreign key practitioner id references Midwife.
- Note: participation constraint can't be enforced.

Health Institution(hEmail, address, phone number, name, website)

Clinic(hEmail, address, phone number, name, website)

- Note: The object-oriented approach is being used.

BirthingCenters(hEmail, address, phone number, name, website)

- Note: The object-oriented approach is being used.

Father (RAMQ id, blood type, phone number, current profession, email, date of birth, address, name)

Mother(RAMQ id, blood type, phone number, current profession, email, date of birth, address, name)

CoupleMother(RAMQ id, couple id)

- Foreign key RAMQ id references Mother
- Foreign key couple id references Couple
- Note: participation constraint can't be enforced.

CoupleFather(RAMQ id, couple id)

- Foreign key RAMQ id references Father
- Foreign key couple id references Couple
- Note: participation constraint can't be enforced.

Couple(couple id)

OnlineInfoSessionAttendance(couple id, session id)

- Foreign key couple id references Couple
- Foreign key session id references Online Info Session.

Pregnancy(pregnancy id, couple id, last menstrual period due date, ultrasound due date, location of birth, expected due date)

- Foreign key couple id references Couple. Not Null.

Online Info Session(session id, language, date, time)

Appointment(appointment id, pregnancy id, date, time)

- Foreign key pregnancy id references Pregnancy. Not Null.

Observation notes(note id, appointment id, date, time)

- Foreign key appointment id references Appointment. Not Null.

Medical test(test id, appointment id, test individual, prescribed date, sampled date, location, lab date, test result, test type)

- Foreign key appointment id references Appointment. Not Null.

Technician(techid, name, phone number)

TechnicianInCharge(techid, test id)

- Foreign key techid references Technician
- Foreign key test id references Medical Test
- Note: participation constraint can't be enforced.

Baby(baby id, pregnancy id gender, blood type, date of birth, name)

- Foreign key pregnancy id references Pregnancy. Not Null.