

IE 6700

DATA MANAGEMENT FOR ANALYTICS

Milestone: Logical Model

Group 14

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MAPPING CONCEPTUAL MODEL TO LOGICAL / RELATIONAL MODEL

**** Note:**

- **PK** (Bold and Underlined) – Primary Key
 - **FK** (Bold and Italics) – Foreign Key
1. Student (**Student_ID**, First Name, Last Name, Gender, **University_ID**)
 - a. Primary Keys: - Student_ID (NULL – not allowed)
 - b. Foreign Keys: - University_ID
 2. Student_Contact_Number (**Student_ID**, **Contact Number**)

Contact Number – multi-valued attribute -- decomposed into another relation

 - a. Primary Keys: - Student_ID, Contact Number (NULL – not allowed)
 - b. Foreign keys:- Student_ID
 3. Student_Address (**Student_ID**, **Address**)

Student_Address – multi-valued attribute -- decomposed into another relation

 - a. Primary Keys: - Student_ID, Address (NULL – not allowed)
 - b. Foreign keys: - Student_ID
 4. University (**University_ID**, University Name, University Address, University Contact Number, **Provider_ID**)
 - a. Primary Keys: - University_ID (NULL – not allowed)
 - b. Foreign Keys: - Provider_ID
 5. Medical Professionals (**MP_ID**, Speciality, Gender, First Name ,Last Name ,Address, Contact Number, **File_Number**, **Provider_ID**)
 - a. Primary Keys: - MP_ID (NULL – not allowed)
 - b. Foreign Keys: - Provider_ID,File_Number
 6. Insurance (**Insurance_ID**, Insurance Name, Coverage Amount)
 - a. Primary Keys: - Insurance_ID (NULL – not allowed)
 7. Student Medical Records (**File_Number**, Insurance Number, Coverage Amount **MP_ID**, **Provider_ID**, **Student_ID**)
 - a. Primary Keys: - File_Number (NULL – not allowed)
 - b. Foreign Keys: - MP_ID, Provider_ID, Student_ID

8. Healthcare Provider (**Provider_ID**, Healthcare_Provider_Address, Healthcare_Provider_Name, **Insurance_ID**, **File_Number**, **MP_ID**, **University_ID**)
 - a. Primary Keys: - Provider_ID (NULL – not allowed)
 - b. Foreign Keys: - Insurance_ID, File_Number, MP_ID, University_ID

9. Healthcare Provider_Contact (**Provider_ID**, **Healthcare Provider Contact**)
Healthcare_Provider_Contact – multi-valued attribute -- decomposed into another relation
 - a. Primary Keys: - Provider_ID, Healthcare_Provider_Contact (NULL – not allowed)
 - b. Foreign Keys: - Provider_ID

10. Bills (**Bill_Number**, Bill_Amount, Bill_File_Number, **Provider_ID**)
 - a. Primary Keys: - Bill_Number (NULL – not allowed)
 - b. Foreign Keys: - Provider_ID

11. Pharmacies (**Pharmacy_ID**, Pharmacy_Name, Quantity_Prescribed, Medicine_Code, **Bill_Number**)
 - a. Primary Keys: - Pharmacy_ID (NULL – not allowed)
 - b. Foreign Keys: - Bill_Number

12. Pharmacies_Medicines (**Pharmacy_ID**, **Medicines**)
Medicines – multi-valued attribute -- decomposed into another relation
 - a. Primary Keys: - Pharmacy_ID, Medicines (NULL – not allowed)
 - b. Foreign Keys: - Pharmacy_ID