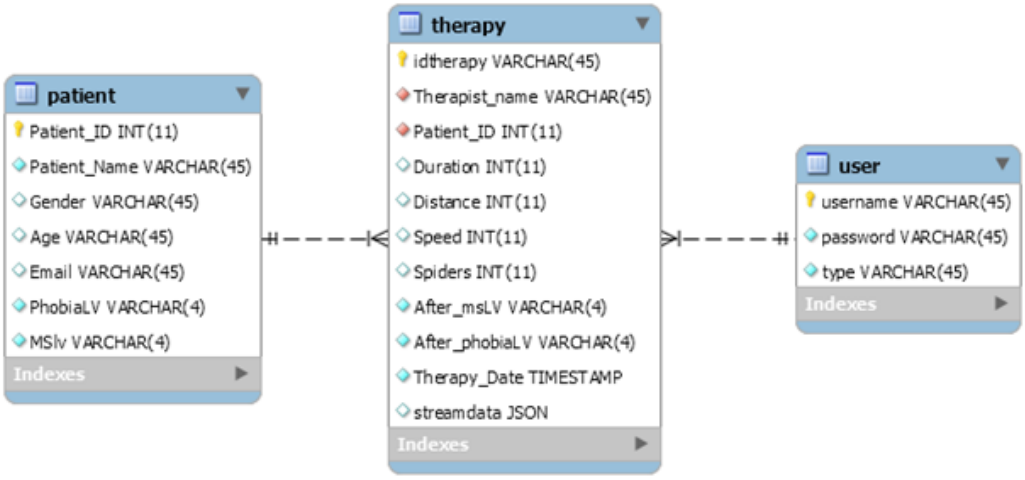
Database Architecture

Database Design

ER Diagram:



The diagram above showed the entity relationship for three tables. For this project, we use MySql to store the statistical data. The therapy table has two foreign keys, one link to the user table and another one links to patient table, one patient can have multiple therapy and each therapist can treat multiple patient for different therapy. Therefore, as we can see from the ER diagram, the patient table and the therapy table are 1-N relation and the user table and therapy table are also 1-N relation.

Table description:

Patient		
Attribute	**Data type**	**Meaning**
Patien_ID	Int	Prime key. Unique id for each patient
Patient_Name	String	Patient name
Gender	String	Three type: Male Female Other
Age	String	Age of the patient
Email	String	Additional column, not necessary.
PhobiaLV	String	Binary, two level: high or low
MSlv	String	Binary, two level: high or low

User		
Attribute	**Data type**	**Meaning**
Username	String	Prime key. Unique for each user
Password	String	At least 6 characters long, contain at least one lower or upper case letter.
type	string	Three type: Therapist, Researcher or both

Therapy		
Attribute	**Data type**	**Meaning**
idtherapy	Int	Prime key. Unique id for each therapy
Patient_ID	Int	Foreign key. Unique id link to patient table
Therapist_name	String	Foreign key. Unique username link to user table
Duration	Int	VR experience parameter. Duration time/minute
Distance	Int	VR experience parameter. Distance/m
speed	Int	VR experience parameter. Spider movement speed: m/s
Spiders	Int	Number of spiders
After_msLV	String	When the therapy finished the patien’s motion sickness level may change, and it should be stored in this column.
After_phobiaLV	String	When the therapy finished the patien’s phobia level may change, and it should be stored in this column.
Therapy_Date	Date	YYYY-MM-DD HH:MM
Streamdata	JSON	Store all the stream data: real-time data from sensor and real-time parameters for VR experience