IT214 Database Management System

Connect Plus

T-603

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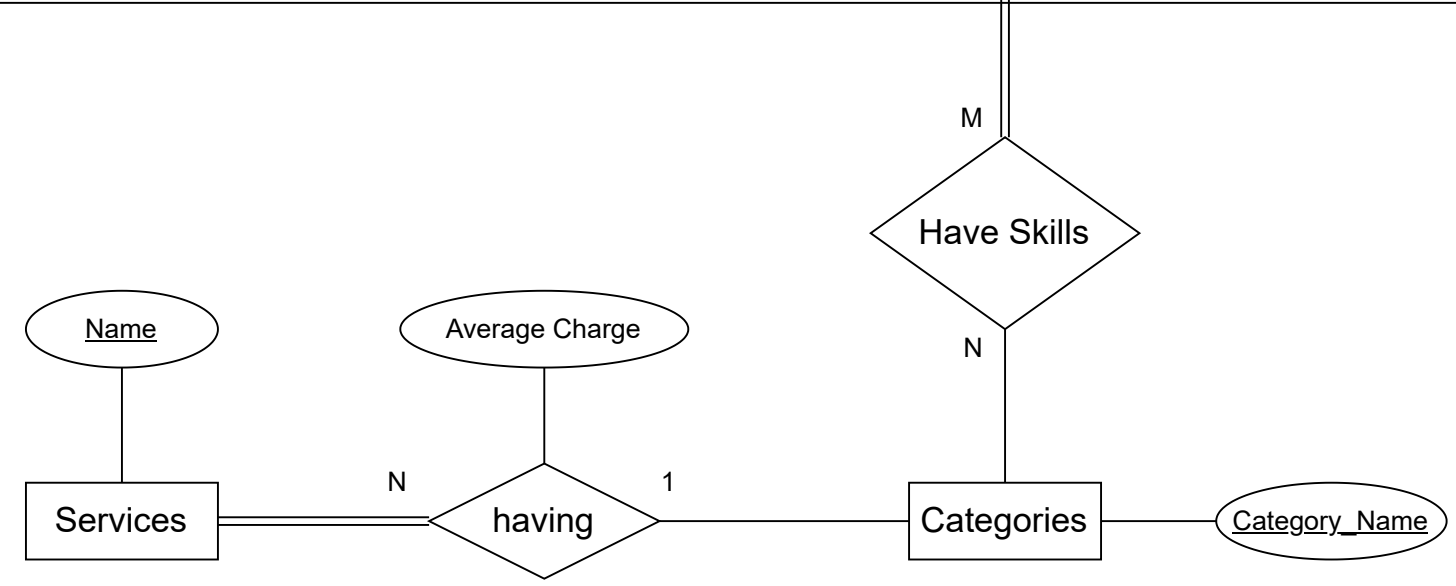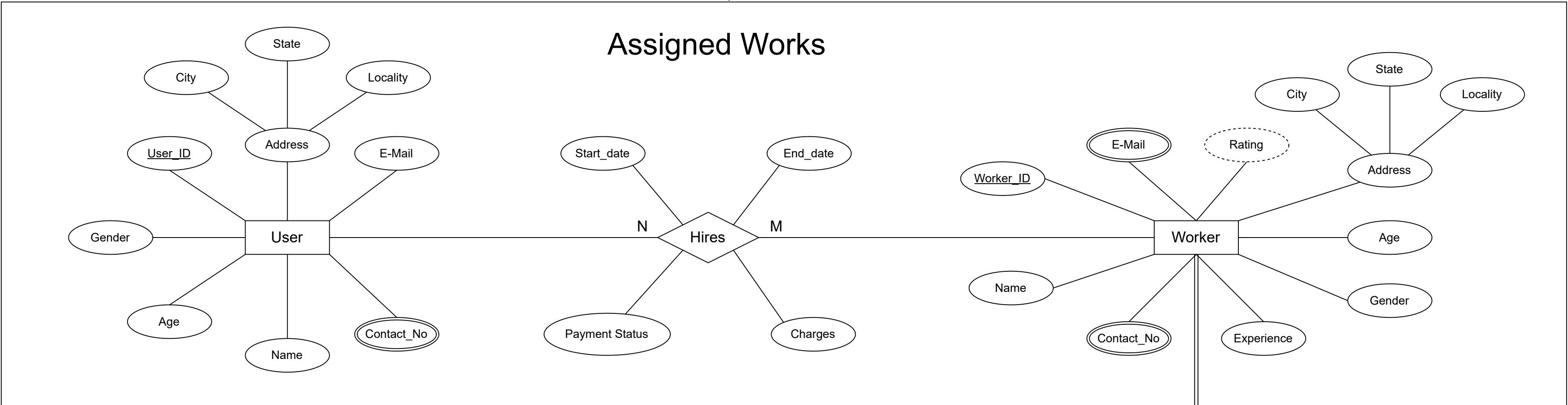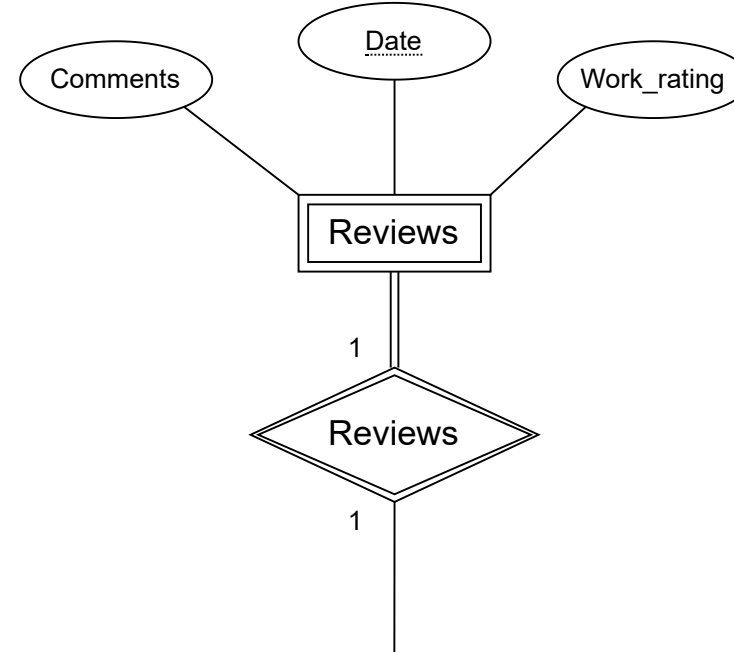Vardhman Mehta 202201444

Under the Supervision of

Prof. P.M Jat

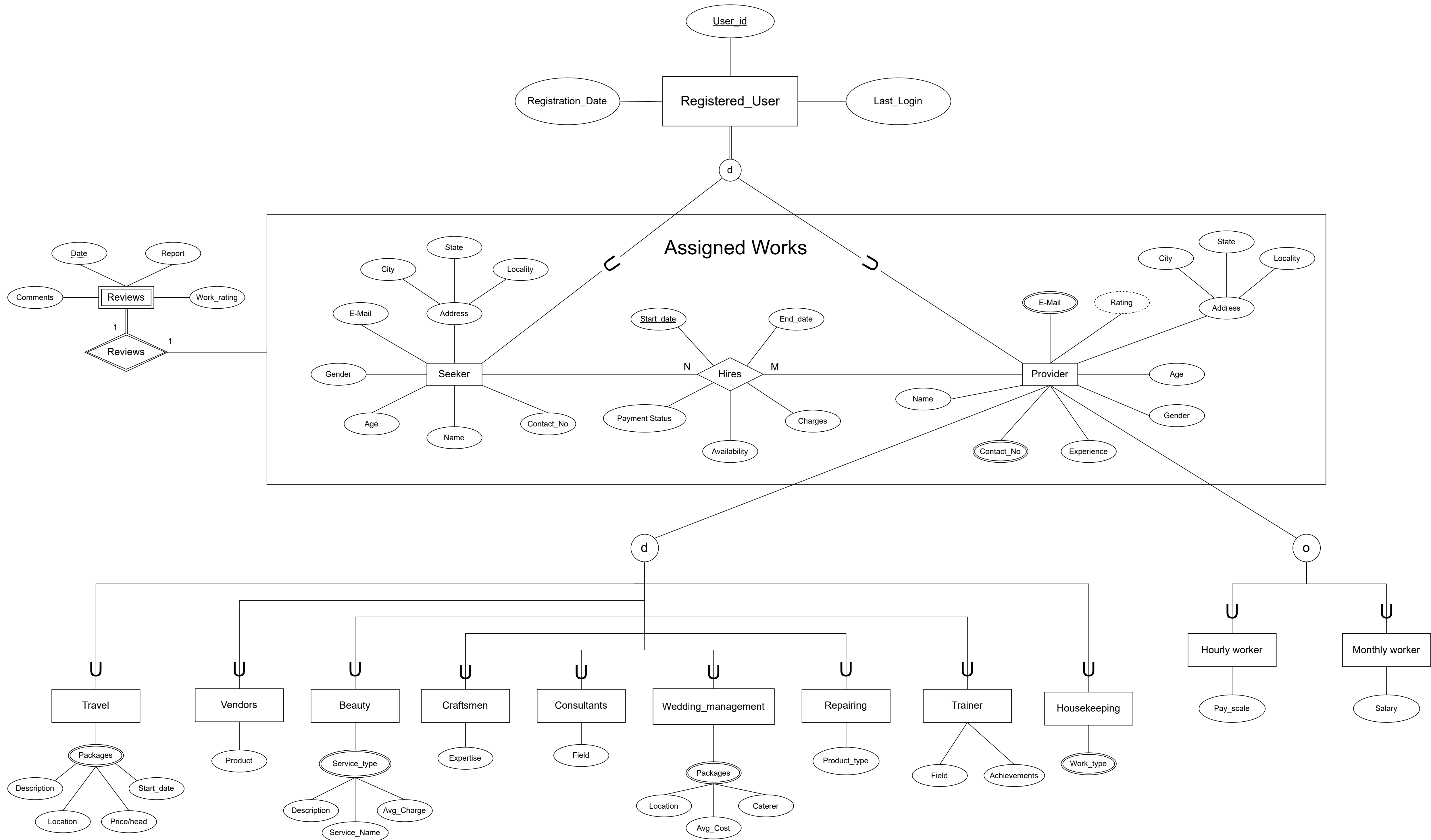# DHIRUBHAI AMBANI INSTITUTE OF INFORMATION AND COMMUNICATION TECHNOLOGY

OLD ERD

NEW ERD

Users
- ◆ <u>User_ID</u>   VARCHAR (20)
- ○ Reg_Date   DATE
- ○ Last_Login DATE

Hourly_Worker
- ◆ <u>Provider_ID VARCHAR (20)</u>
- ○ Pay_Scale   INTEGER

Monthly_Worker
- ◆ <u>Provider_ID VARCHAR (20)</u>
- ○ Salary   INTEGER

Provider
- ◆ <u>Provider_ID VARCHAR (20)</u>
- ○ Name   VARCHAR (50)
- ○ Age   INTEGER
- ○ Gender   CHAR
- ○ Experience VARCHAR (100)
- ○ City   VARCHAR (30)
- ○ State   VARCHAR (30)
- ○ Locality   VARCHAR (30)
- ○ Rating   NUMERIC (2,1)

Hires
- ◆ <u>Seeker_ID   VARCHAR (20)</u>
- ◆ <u>Provider_ID   VARCHAR (20)</u>
- ◆ <u>Start_date   DATE</u>
- ○ End_date   DATE
- ○ Charges   INTEGER
- ○ Payment_Status BOOL
- ○ Availability   BOOL

Reviews
- ◆ <u>Seeker_ID   VARCHAR (20)</u>
- ◆ <u>Provider_ID VARCHAR (20)</u>
- ◆ <u>Start_Date   DATE</u>
- ◆ <u>Review_Date DATE</u>
- ○ Comments   VARCHAR (300)
- ○ Report   BOOL
- ◆ Work_rating NUMERIC (2,1)

Provider_Contact_No
- ◆ <u>Provider_ID VARCHAR (20)</u>
- ◆ <u>Contact_No CHAR (10)</u>

Provider_Email
- ◆ <u>Provider_ID VARCHAR (20)</u>
- ◆ <u>Email   VARCHAR (50)</u>

Vendors
- ◆ <u>Provider_ID VARCHAR (20)</u>
- ○ Product   VARCHAR (50)

Craftsmen
- ◆ <u>Provider_ID VARCHAR (20)</u>
- ○ Expertise   VARCHAR (50)

Seeker
- ◆ <u>Seeker_ID VARCHAR (20)</u>
- ○ Name   VARCHAR (50)
- ○ City   VARCHAR (30)
- ○ State   VARCHAR (30)
- ○ Locality   VARCHAR (30)
- ○ Email   VARCHAR (30)
- ○ Gender   CHAR
- ○ Age   SMALLINT
- ○ Contact_No CHAR (10)

Travel
- ◆ <u>Provider_ID VARCHAR (20)</u>

Repairing
- ◆ <u>Provider_ID VARCHAR (20)</u>
- ◆ Product_Type VARCHAR (50)

Travel_Packages
- ◆ <u>Provider_ID   VARCHAR (20)</u>
- ◆ <u>Start_Date   DATE</u>
- ◆ <u>Location   VARCHAR (50)</u>
- ◆ <u>Description   VARCHAR (300)</u>
- ◆ <u>Price_Per_Head INTEGER</u>

Beauty
- ◆ <u>Provider_ID VARCHAR (20)</u>

Trainer
- ◆ <u>Provider_ID VARCHAR (20)</u>
- ◆ Field   VARCHAR (30)
- ◆ Achievements VARCHAR (100)

Beauty_Services
- ◆ <u>Provider_ID VARCHAR (20)</u>
- ◆ <u>Service_Name VARCHAR (50)</u>
- ◆ <u>Description VARCHAR (300)</u>
- ◆ <u>Avg_Charge   INTEGER</u>

Wedding_Management
- ◆ <u>Provider_ID VARCHAR (20)</u>

Consultants
- ◆ <u>Provider_ID VARCHAR (20)</u>
- ○ Field   VARCHAR (50)

Wedding_Packages
- ◆ <u>Provider_ID VARCHAR (20)</u>
- ◆ <u>Location   VARCHAR (100)</u>
- ◆ <u>Avg_Charge   INTEGER</u>
- ◆ <u>Caterer   VARCHAR (50)</u>

Housekeeping_Work_Type
- ◆ <u>Provider_ID VARCHAR (20)</u>
- ◆ <u>Work_Type   VARCHAR (50)</u>

Housekeeping
- ◆ <u>Provider_ID VARCHAR (20)</u>

Normalization Proof

Users : {User_ID , Reg_Date , Last_Login}		
User_ID	$\rightarrow$	Reg_Date
User_ID	$\rightarrow$	Last_Login

Candidate key **: -** User_ID

Primary key : - User_ID

Foreign key : - None

Type of normal form : - BCNF

Reason : - For every FD , A $\rightarrow$ B that holds on this relation A is a super key.

Provider : {Provider_ID , Name , Age , Gender , Experience , City , State , Locality , Rating}		
Provider_ID	$\rightarrow$	Name
Provider_ID	$\rightarrow$	Age
Provider_ID	$\rightarrow$	Gender
Provider_ID	$\rightarrow$	Experience
Provider_ID	$\rightarrow$	City
Provider_ID	$\rightarrow$	State

Provider_ID	→	Locality
Provider_ID	→	Rating

Candidate key **: -** Provider_ID

Primary key : - Provider_ID

Foreign key : - Provider_ID

Type of normal form : - BCNF

Reason : - For every FD , A → B that holds on this relation A is a super key.

Seeker **{Seeker_ID , Name , City , State , Locality , Email , Gender , Age , Contact_No}**		
Seeker_ID	→	Name
Seeker_ID	→	City
Seeker_ID	→	State
Seeker_ID	→	Locality
Seeker_ID	→	Email
Seeker_ID	→	Gender
Seeker_ID	→	Age
Seeker_ID	→	Contact_No
Contact_No	→	Name
Contact_No	→	City

Contact_No	→	State
Contact_No	→	Locality
Contact_No	→	Email
Contact_No	→	Gender
Contact_No	→	Age
Contact_No	→	Seeker_ID
Email	→	Name
Email	→	City
Email	→	State
Email	→	Locality
Email	→	Seeker_ID
Email	→	Gender
Email	→	Age
Email	→	Contact_No

Candidate key **: -** Seeker_ID , Email , Contact_No

Primary key : - Seeker_ID

Foreign key : - Seeker_ID

Type of normal form : - BCNF

Reason : - For every FD , A → B that holds on this relation A is a super key.

Hires **{Seeker_ID , Provider_ID , Start_Date , End_Date , Charges , Payment Status Availability}**		
{Seeker_ID , Provider_ID , Start_Date}	$\longrightarrow$	End_Date
{Seeker_ID , Provider_ID , Start_Date}	$\longrightarrow$	Charges
{Seeker_ID , Provider_ID , Start_Date}	$\longrightarrow$	Payment Status
{Seeker_ID , Provider_ID , Start_Date}	$\longrightarrow$	Availability
{Seeker_ID , Provider_ID , End_Date}	$\longrightarrow$	Start_Date
{Seeker_ID , Provider_ID , End_Date}	$\longrightarrow$	Charges
{Seeker_ID , Provider_ID , End_Date}	$\longrightarrow$	Payment Status
{Seeker_ID , Provider_ID , End_Date}	$\longrightarrow$	Availability

Candidate key **: -** {Seeker_ID , Provider_ID , Start_Date} , {Seeker_ID , Provider_ID , End_Date}

Primary key : - {Seeker_ID , Provider_ID , Start_Date}

Foreign key : - Seeker_ID , Provider_ID

Type of normal form : - BCNF

Reason : - For every FD , A $\longrightarrow$ B that holds on this relation A is a super key.

Reviews {Seeker_ID , Provider_ID , Start_Date , Review_Date , Comments , Report , Rating		
{Seeker_ID , Provider_ID , Start_Date , Review_Date}	$\rightarrow$	Comments
{Seeker_ID , Provider_ID , Start_Date , Review_Date}	$\rightarrow$	Report
{Seeker_ID , Provider_ID , Start_Date , Review_Date}	$\rightarrow$	Rating

Candidate key **: -** {Seeker_ID , Provider_ID , Start_Date , Review_Date}

Primary key : - {Seeker_ID , Provider_ID , Start_Date , Review_Date}

Foreign key : - Seeker_ID , Provider_ID , Start_Date

Type of normal form : - BCNF

Reason : - For every FD , A $\rightarrow$ B that holds on this relation A is a super key.

Provider_Contact_No {Provider_ID , Contact_No}		
{Provider_ID,Contact_No}	$\rightarrow$	Provider_ID
{Provider_ID,Contact_No}	$\rightarrow$	Contact_No

Candidate key **: -** {Provider_ID,Contact_No}

Primary key : - {Provider_ID,Contact_No}

Foreign key : - Provider_ID

Type of normal form : - BCNF

Reason : - For every FD , A $\rightarrow$ B that holds on this relation A is a super key.

Provider_Email {Provider_ID , Email}		
{Provider_ID , Email}	$\rightarrow$	{Provider_ID , Email}

Candidate key **: -** {Provider_ID , Email}

Primary key : - {Provider_ID , Email}

Foreign key : - Provider_ID

Type of normal form : - BCNF

Reason : - For every FD , A $\longrightarrow$ B that holds on this relation A is a super key.

Hourly Worker {Provider_ID , Pay_Scale}		
Provider_ID	$\rightarrow$	Pay_Scale

Candidate key **: -** Provider_ID

Primary key : - Provider_ID

Foreign key : - Provider_ID

Type of normal form : - BCNF

Reason : - For every FD , A $\longrightarrow$ B that holds on this relation A is a super key.

Monthly Worker {Provider_ID , Salary}		
Provider_ID	$\longrightarrow$	Salary

Candidate key **: -** Provider_ID

Primary key : - Provider_ID

Foreign key : - Provider_ID

Type of normal form : - BCNF

Reason : - For every FD , A $\longrightarrow$ B that holds on this relation A is a super key.

Travel {Provider_ID}		
{Provider_ID}	$\longrightarrow$	{Provider_ID}

Candidate key **: -** Provider_ID

Primary key : - Provider_ID

Foreign key : - Provider_ID

Type of normal form : - BCNF

Reason : - For every FD , A $\longrightarrow$ B that holds on this relation A is a super key.

Travel_Packeging {Provider_ID , Start_Date , Location , Description , Price_Per_Head}		
{Provider_ID , Start_Date , Location , Description , Price_Per_Head}	$\longrightarrow$	Provider_ID
{Provider_ID , Start_Date , Location , Description , Price_Per_Head}	$\longrightarrow$	Start_Date
{Provider_ID , Start_Date , Location , Description , Price_Per_Head}	$\longrightarrow$	Location
{Provider_ID , Start_Date , Location , Description , Price_Per_Head}	$\longrightarrow$	Description
{Provider_ID , Start_Date , Location , Description , Price_Per_Head}	$\longrightarrow$	Price_Per_Head

Candidate key **: -** {Provider_ID , Start_Date , Location , Description , Price_Per_Head}

Primary key : - {Provider_ID , Start_Date , Location , Description , Price_Per_Head}

Foreign key : - Provider_ID

Type of normal form : - BCNF

Reason : - For every FD , A $\longrightarrow$ B that holds on this relation A is a super key.

Beauty {Provider_ID}		
{Provider_ID}	→	{Provider_ID}

Candidate key **: -** Provider_ID

Primary key : - Provider_ID

Foreign key : - Provider_ID

Type of normal form : - BCNF

Reason : - For every FD , A ⟶ B that holds on this relation A is a super key.

Beauty_Services {Provider_ID , Service_Name , Description , Avg_Charge}		
{Provider_ID , Service_Name , Description , Avg_Charge}	→	Provider_ID
{Provider_ID , Service_Name , Description , Avg_Charge}	→	Service_Name
{Provider_ID , Service_Name , Description , Avg_Charge}	→	Description
{Provider_ID , Service_Name , Description , Avg_Charge}	→	Avg_Charge

Candidate key **: -** {Provider_ID , Service_Name , Description , Avg_Charge}

Primary key : - {Provider_ID , Service_Name , Description , Avg_Charge}

Foreign key : - Provider_ID

Type of normal form : - BCNF

Reason : - For every FD , A ⟶ B that holds on this relation A is a super key.

Wedding_Management {Provder_ID}		
Provder_ID	$\longrightarrow$	Provder_ID

Candidate key **: -** Provider_ID

Primary key : - Provider_ID

Foreign key : - Provider_ID

Type of normal form : - BCNF

Reason : - For every FD , A $\longrightarrow$ B that holds on this relation A is a super key.

Wedding_Packages {Provider_ID , Location , Avg_Charge , Caterer}		
{Provider_ID , Location , Avg_Charge , Caterer}	$\longrightarrow$	Provider_ID
{Provider_ID , Location , Avg_Charge , Caterer}	$\longrightarrow$	Location
{Provider_ID , Location , Avg_Charge , Caterer}	$\longrightarrow$	Avg_Charge
{Provider_ID , Location , Avg_Charge , Caterer}	$\longrightarrow$	Caterer

Candidate key **: -** {Provider_ID , Location , Avg_Charge , Caterer}

Primary key : - {Provider_ID , Location , Avg_Charge , Caterer}

Foreign key : - Provider_ID

Type of normal form : - BCNF

Reason : - For every FD , A $\longrightarrow$ B that holds on this relation A is a super key.

Housekeeping {Provider_ID}		
Provider_ID	$\longrightarrow$	Provider_ID

Candidate key **: -** Provider_ID

Primary key : - Provider_ID

Foreign key : - Provider_ID

Type of normal form : - BCNF

Reason : - For every FD , A $\longrightarrow$ B that holds on this relation A is a super key.

Housekeeping_Work_Type {Provider_ID , Work_Type}		
{Provider_ID , Work_Type}	$\longrightarrow$	Provider_ID
{Provider_ID , Work_Type}	$\longrightarrow$	Work_Type

Candidate key **: -** {Provider_ID , Work_Type}

Primary key : - {Provider_ID , Work_Type}

Foreign key : - Provider_ID

Type of normal form : - BCNF

Reason : - For every FD , A $\longrightarrow$ B that holds on this relation A is a super key.

Vendors {Provider_ID , Product}		
Provider_ID	$\longrightarrow$	Product

Candidate key **: -** Provider_ID

Primary key : - Provider_ID

Foreign key : - Provider_ID

Type of normal form : - BCNF

Reason : - For every FD , A $\longrightarrow$ B that holds on this relation A is a super key.

Craftsmen {Provider_ID , Expertise}		
Provider_ID	$\longrightarrow$	Expertise

Candidate key **: -** Provider_ID

Primary key : - Provider_ID

Foreign key : - Provider_ID

Type of normal form : - BCNF

Reason : - For every FD , A $\longrightarrow$ B that holds on this relation A is a super key.

Repairing {Provider_ID , Product_Type}		
Provider_ID	$\longrightarrow$	Product_Type

Candidate key **: -** Provider_ID

Primary key : - Provider_ID

Foreign key : - Provider_ID

Type of normal form : - BCNF

Reason : - For every FD , A $\longrightarrow$ B that holds on this relation A is a super key.

Trainer {Provider_ID , Field , Achievement }		
Provider_ID	$\longrightarrow$	Field
Provider_ID	$\longrightarrow$	Achievement

Candidate key **: -** Provider_ID

Primary key : - Provider_ID

Foreign key : - Provider_ID

Type of normal form : - BCNF

Reason : - For every FD , A $\longrightarrow$ B that holds on this relation A is a super key.

Consultants {Provider_ID , Field}		
Provider_ID	→	Field

Candidate key **: -** Provider_ID

Primary key : - Provider_ID

Foreign key : - Provider_ID

Type of normal form : - BCNF

Reason : - For every FD , A → B that holds on this relation A is a super key.