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By:

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ISM 6212-Database Management & Warehousing

**United Airlines Database**

Access Project

**Business Justification**

As database developers working for United Airlines, I have created a relational database that houses the passenger details, airplane details, transactional details, cancellation charges, and route details of flights. There are four main forms and five reports of our database. All the forms are informational for the United Airlines crewmembers and passengers. The database will allow United Airlines customers the ability to log in and view their personal details. Upon login, the database will verify the user’s email address after they have correctly entered their email ID and password. If the user login details are incorrect the user will not be able to log in and will be prompted to try again. This is giving the login form more security and verification. The business justification for this is so that a customer can verify that their information is correct. Ensuring the identification that the airline has is correct saves the customer time when checking in for flights at the airport. The online portal gives them a view of their identification and if there are any wrong inputs, they can rectify the issue prior to their flight date by calling the number on our homepage or by emailing us at the email address on the homepage. In addition, the Homepage offers a direct link to united.com for airline booking and reservations.

One of our forms is a cancellation policy that uses a combo box to display the three types of cancellation policies that United Airlines allows. When the customer selects the cancelation policy, they will be able to see the description at the bottom. Furthermore, a table showing the charges for each flight cancellation policy is available as a button. To view the full cancellation policy, I have installed a second button on our cancellation page. This business functionality allows the customer a one-click option to view our policy and the fees associated with each cancellation option.

On our customer information form the passenger details are available and flight details are available using a sub-form. I have also included a button for the crewmember to view the flight schedules and route details for all airplanes.

Our database holds the most required information when booking travel and canceling travel. It has all flight information for a given day as well as United Airline passenger details enabling crewmembers to locate passengers if need be and view passenger details to assist customers more rapidly. I believe the portal has a great opportunity of improving customer satisfaction with decreased wait times to travel changes and changes to personal information.

**Database Tables for United Airlines**

**Airplane Details**

|  |  |  |
| --- | --- | --- |
| Field Name | Data Type | Description |
| AID | Number | Primary Key |
| AirplaneNo | Short Text | Unique name of the aircraft |
| Seat Capacity | Number | Total seat in the plane |
| OBID | Short Text | Foreign Key for operating company |
| MID | Short Text | Foreign Key for manufacturing company |
| ATID | Short Text | Foreign key for airplane type |

**Company**

|  |  |  |
| --- | --- | --- |
| Field Name | Data Type | Description |
| OBID | Number | Primary Key |
| Company | Short Text | Company responsible for operating flight |

**Airplane Type**

|  |  |  |
| --- | --- | --- |
| Field Name | Data Type | Description |
| ATID | Number | Primary Key |
| AirplaneType | Short Text | Type of the airplane |

**Manufacture**

|  |  |  |
| --- | --- | --- |
| Field Name | Data Type | Description |
| MID | Number | Primary Key |
| Manufacture | Short Text | Name of the airplane Manufacture |

**Route**

|  |  |  |
| --- | --- | --- |
| Field Name | Data Type | Description |
| RID | Number | Primary Key |
| SourceID | Short Text | Foreign key from Airport table for source airport |
| DestinationID | Short Text | Foreign key from Airport table for destination |
| Route Code | Short Text | Route code for flight journey |
| Cost | Number | Fare cost |

**Airport**

|  |  |  |
| --- | --- | --- |
| Field Name | Data Type | Description |
| ARID | Number | Primary Key |
| AirportCode | Short Text | Short code for the airports |
| AirportName | Short Text | Name of the airport |
| SID | Short Text | Foreign key for state table |
| CountryID | Short Text | Foreign key for country table |

**Flight Schedule**

|  |  |  |
| --- | --- | --- |
| Field Name | Data Type | Description |
| FID | Number | Primary Key |
| FlightDate | Date/Time | Date of Flight |
| DepartureTime | Date/Time | Departure time from source airport |
| ArrivalTime | Date/Time | Arrival time at destination airport |
| Duration | Short Text | Total duration of flight |
| AID | Number | Foreign key for Airplane Details |
| RID | Number | Foreign key for Route |

**Passengers**

|  |  |  |
| --- | --- | --- |
| Field Name | Data Type | Description |
| PID | Number | Primary Key |
| FName | Short Text | First Name of Passenger |
| LName | Short Text | Last Name of Passenger |
| DOB | Date/Time | Date of birth |
| EmailID | Short Text | Email ID of Passenger |
| Contact | Short Text | Phone number |
| Password | Short Text | Password for login purpose |
| City | Short Text | Residence city |
| SID | Short Text | Foreign key for state |
| CountryID | Short Text | Foreign key for Country |

**State**

|  |  |  |
| --- | --- | --- |
| Field Name | Data Type | Description |
| SID | Short Text | Primary key |
| State | Short Text | Name of states |
| State Alias | Short Text | Alias for state |

**Country**

|  |  |  |
| --- | --- | --- |
| Field Name | Data Type | Description |
| CountryID | Short Text | Primary key |
| Country | Short Text | Name of country |
| Alias | Short Text | Alias for country |

**Cancellation Charge**

|  |  |  |
| --- | --- | --- |
| Field Name | Data Type | Description |
| CCID | Number | Primary key |
| Title | Short Text | Cancellation Type |
| Amount | Number | Amount to be deducted |
| Description | Short Text | Cancellation charges description |

**Transaction Details**

|  |  |  |
| --- | --- | --- |
| Field Name | Data Type | Description |
| TID | Number | Primary key |
| PID | Number | Foreign key for passengers |
| FID | Number | Foreign key for Flight details |
| CCID | Number | Foreign key for cancellation charges |
| BookingDate | Short Text | Booking date of flight |
| CancellationStatus | Short Text | Canceled or not |

**Relational Schema**

**TransactionDetails**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **TID** | **FID** | PID | CCID | CancellationStatus | BookingDate |

|  |  |  |  |
| --- | --- | --- | --- |
| **CCID** | Title | Amount | Description |

**CancellationCharge**

**Passengers**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **PID** | SID | CountryID | FName | LName | DOB | City | EmailID | Password | Contact |

**State**

|  |  |  |
| --- | --- | --- |
| **SID** | State | StateAlias |

|  |  |  |
| --- | --- | --- |
| **CountryID** | Country | Alias |

**Country**

**FlightDetails**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **FID** | AID | RID | FlightDate | DepartureTime | ArrivalTime | Duration |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **AID** | AirplaneNo | SeatCapacity | MID | ATID | OBID |

**AirplaneDetails**

|  |  |
| --- | --- |
| **OBID** | Company |

|  |  |
| --- | --- |
| **MID** | Manufacture |

|  |  |
| --- | --- |
| **ATID** | AirplaneType |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **RID** | SourceID | DestinationID | Cost | RouteCode |

**Route**

**Airport**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **ARID** | AirportCode | AirportName | Cost | SID | CountryID |