**Logical Design (Database Design)**

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ITEC 3200-02

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## USER

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Column Name** | **Data Type** | **Key** | **Required** | **Default Value** | **Remarks** |
| **User\_ID** | Integer | Primary | Yes | DBMS-Supplied | Surrogate Key:  Initial Value = 1  Increment = 1 |
| Zip\_Code | Integer | Foreign | Yes | None | REF: LOCATION |
| UserName | VarChar(10) | No | Yes | None |  |
| DoB | Date | No | Yes | None | Format: mm/dd/yyyy |
| Log\_In\_Date | Date | No | No | None | Format: mm/dd/yyyy |

## LOCATION

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Column Name** | **Data Type** | **Key** | **Required** | **Default Value** | **Remarks** |
| **Zip\_Code** | Integer | Primary | Yes | None |  |
| City | VarChar(15) | No | Yes | None |  |
| County | VarChar(10) | No | Yes | None |  |
| State | Char(2) | No | Yes | None | Format: AA |

## CURRENT\_OBSERVATIONS

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Column Name** | **Data Type** | **Key** | **Required** | **Default Value** | **Remarks** |
| **Condition\_ID** | Integer | Primary | Yes | DBMS-Supplied | Surrogate Key:  Initial Value = 1  Increment = 1 |
| Observation\_  Date | Date | No | Yes | None | Format: mm/dd/yyyy |
| Observation\_  Time | Time | No | Yes | None | Format: HH:MM:SS.### |
| Condition\_  Description | VarChar(100) | No | No | None |  |
| Temperature | Integer | No | Yes | 0 | Format: ### (\*F) |
| Humidity | Integer | No | Yes | 0 | Format: ### (%) |

## WEATHER\_FORECAST

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Column Name** | **Data Type** | **Key** | **Required** | **Default Value** | **Remarks** |
| **Forecast\_ID** | Integer | Primary | Yes | DBMS-Supplied | Surrogate Key:  Initial Value = 1  Increment = 1 |
| **Condition\_ID** | Integer | Primary/  Foreign | Yes | None | REF: CURRENT\_OBSERVATIONS |
| Meteorologist\_  ID | Integer | Foreign | Yes | None | REF: METEOROLOGIST |
| Hourly\_  Forecast | VarChar(100) | No | No | None | Text description of hourly forecast. |
| 10\_Day\_  Forecast | VarChar(100) | No | Yes | None | Text description of 10-day forecast. |

## METEOROLOGIST

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Column Name** | **Data Type** | **Key** | **Required** | **Default Value** | **Remarks** |
| **Meteorologist\_**  **ID** | Integer | Primary | Yes | DBMS-Supplied | Surrogate Key:  Initial Value = 1  Increment = 1 |
| Last\_Name | VarChar(25) | No | Yes | None |  |
| First\_Name | VarChar(25) | No | Yes | None |  |

## SEVERE\_FORECAST

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Column Name** | **Data Type** | **Key** | **Required** | **Default Value** | **Remarks** |
| **Severe\_**  **Forecast\_ID** | Integer | Primary | Yes | DBMS-Supplied | Surrogate Key:  Initial Value = 1  Increment = 1 |
| **Forecast\_ID** | Integer | Primary/  Foreign | Yes | None | REF: WEATHER\_FORECAST |
| Severe\_  Weather\_  Chance | Integer | No | Yes | 0 | Format: ### (%) |
| Severe\_  Weather\_  Type | VarChar(100) | No | No | None | Description of severe weather, if relevant. |

## SEVERE\_WEATHER\_ALERT

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Column Name** | **Data Type** | **Key** | **Required** | **Default Value** | **Remarks** |
| **ALERT\_ID** | Integer | Primary | Yes | DBMS-Supplied | Surrogate Key:  Initial Value = 1  Increment = 1 |
| **Severe\_**  **Forecast\_ID** | Integer | Primary/  Foreign | Yes | None | REF: SEVERE\_FORECAST |
| **ZIP\_CODE** | Integer | Primary/  Foreign | Yes | None | REF: LOCATION |
| Alert\_Type | VarChar(25) | No | Yes | None |  |
| Alert\_Severity | VarChar(25) | No | Yes | None |  |
| Alert\_  Description | VarChar(100) | No | No | None |  |