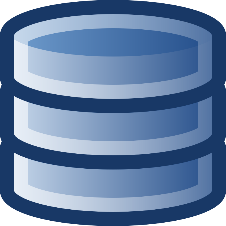
A blue and white object

Description automatically generated with medium confidence

**Data Dining Room**

**Lab 1**

**Database Design and Normalization**

**Objectives:**

1. Produce an ERD in 3NF from client documents and input.
2. Demonstrate the process of normalization showing the database tables as they exist in the initial table (0NF), 1NF, 2NF, and 3NF.
3. Merge 3NF solutions from different views to create one composite ERD

**The Company**

Data Dining Room is a new restaurant with a unique database theme! They require you to create a database to support their operations and data storage needs. To assist you they broken down the business into different components (views) with sample documents and descriptions of each component.

**Reservation View (5 marks)**

The Reservation View contains data related to Customers and their reservations. The following report shows information related to a Reservation.

**Business rules:**

* A reservation is placed by a single customer
* Each reservation is assigned an event identifier(birthday, anniversary, Sports team, other, etc.) that describes the purpose of the reservation
* One staff member is assigned to be the server for the reservation

**Reservation ID**: 1234

**Date**: Jan 1, 2024

**Staff ID**: 15

**Name**: Database Dave

**Customer ID**: 4321

**Name**: Judy Jones

**Phone**: 780 555-1234

**Email**: [JudyJones123@gmail.com](mailto:JudyJones123@gmail.com)

**Party Size**: 8

**Special Accommodations**: Would like staff to sing Happy Birthday!

**Event ID**: 4

**Event Description**: Birthday

**Staff Training Status View (6 marks)**

The Staff Training Status View contains data related to Staff and their training history. The following report shows information related to a Staff and their training history.

**Business rules:**

* Staff can take many different training
* All training is done online through online courses that are identified by a Training ID
* Each training has a Training Status ID that identifies the status of the staff in that Training (Registered, In Progress, Completed)

Staff ID: 15

Name: Database Dave

Staff Type: 3

Staff Type Description: Server

Wage: $24

Training

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Training ID | Training Name | Training Description | Completion Date | Cost | Training Status ID | Description |
| 111 | Pro Serve | Serving alcohol accreditation | Sept 4, 2023 | $150 | 3 | Completed |
| 222 | Customer Service | Basic Customer Service |  | $200 | 1 | Registered |

**Bills View (5 marks)**

The Bills View contains data related to the different bills that are part of a reservation. A reservation can contain main different families/groups that require separate bills. The following report shows information related to a bill that could be created for one family that is part of a reservation.

**Business rules:**

* A reservation can have many different bills on it for different groups in the reservation
* Tips are added on to the bill by the customer after the GST has been calculated on the subtotal

Reservation ID: 1234

Date: Jan 1, 2024

Bill ID: 2323

Menu Items

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| MenuItem ID | Item Name | Description | Special Requests | Price |
| 12 | Code Cake | Chocolate cake |  | $7.00 |
| 15 | SQL Nachos | Cheesy goodness! | Extra sour cream | $9.00 |
| 8 | Boolean Burger | Double burger | Extra pickles | $8.00 |

Subtotal: $24.00

GST: $1.20

Tips: $5.00

Total: $30.20

**Merged ERD (2 Marks)**

**Submission Requirements**

**Lab Submission will include the following:**

* An electronic copy of your Lab (not compressed) will be submitted to your github lab repository. **Failure to submit work through your lab repository will result in a mark of zero. Do frequent commits during the process of creating your solution to demonstrate incremental development.** The type of acceptable document types will be provided by your instructor.
* A solution for each view including **ALL** the attributes and entities as they appear in the initial table (0NF), 1NF, 2NF, and 3NF. ***View your class room demonstration for the documentation style for each level of normalization.***
* An ERD for each 3NF solution of each view and an ERD of the merged solution (4 ERDs total) created with an ERD modeling tool approved by your instructor (Excel, Visio, Word, Lucidchart, DrawIO, etc.). All ERD’s must demonstrate appropriate cardinality symbols(one/many) as well as correct relationship lines (identifying/non-identifying).
* Please include in submission a **short** discussion about the lab including:
* What you liked/disliked about the lab
* How long it took you to complete the lab
* How prepared you felt you were for the lab
* Recommendations for future labs (if any)
* Any additional requirements as specified by your instructor.

**Other Considerations**

**Do not make assumptions**. If you have questions about the company, ask your instructor (client). **This is not a group project. Working with another student on lab material may result in a grade of 0 for this lab**. Up to 3 Marks may be deducted for incomplete lab submission requirements. Please read the complete lab specifications.

