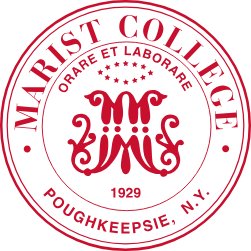
**Warehouse Management System – Phase 3**

**Database Management Systems**

**MSCS 542L-256**

**Embrace Database**



Marist College

School of Computer Science and Mathematics

Submitted To:

Dr. Reza Sadeghi

10/4/2023

**Project Report of Warehouse Management System – Phase 3**

**Team Name**

Embrace Database

**Team Members**

1. Reem Ooka (Team Head) [Reem.Ooka1@marist.edu](mailto:Reem.Ooka1@marist.edu)

2. Frank Seelmann (Team Member) [Frank.Seelmann1@marist.edu](mailto:frank.seelmann1@marist.edu)

**Description of Team Members**

1. Reem Ooka

Hailing from the Incredible country of India, I proudly call Mumbai my home - a vibrant metropolitan city renowned as the economic and entertainment heartbeat of our nation. I graduated in May 2022 with a bachelor's degree in computer science. During my professional career, I gained expertise in developing websites tailored for citizen-centric solutions while working at an e-governance company as a Full Stack Developer. Presently, I am furthering my academic pursuits as a graduate student at Marist, where I am specializing in Cloud Computing.

Frank voted Reem to be the team lead since he already has a job, so putting “Team Lead” on his resume will not be as useful for him.

2. Frank Seelmann

Hudson Valley native, graduated from SUNY New Paltz in May 2022 with a Bachelor of Computer Engineering. Works at IBM in Poughkeepsie as a Verification Engineer. Has some experience using database management systems, specifically MySQL and MongoDB, but in both cases the DBMS was supplemental to the project, not its focus.

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# 1. Data Types

It is important to use the most accurate data type for your data when creating tables in MySQL. SQL data types define the type of value that can be stored in a table column. For example, if you want a column to store only integer values, you can define its data type as INT. MySQL data types can be broadly divided into the following categories. Numeric data types such as: INT, TINYINT, BIGINT, FLOAT, REAL, etc. Date and Time data types such as: DATE, TIME, DATETIME, etc. Character and String data types such as: CHAR, VARCHAR, TEXT, etc. Unicode character string data types such as: NCHAR, NVARCHAR, NTEXT, etc. Binary data types such as: BINARY, VARBINARY, etc. Miscellaneous data types - CLOB, BLOB, XML, CURSOR, TABLE, etc.

# 2.Why Bother?

If it doesn’t outright cause an error, using the wrong datatype can result in compatibility problems. For instance, you may not be able to use datatype-specific functions or certain MySQL commands, such as joining two tables.

For example, in Figure 1 the datetime specific function “timestampdiff” cannot compute the age of the pet, Maya, because the birthdate is a string. In Figure 2 the function works as intended since the variable is of the correct type.

A screenshot of a computer

Description automatically generated

Figure 1

A screenshot of a computer

Description automatically generated

Figure 2

# 3. MySQL Conversions

MySQL will automatically convert unsupported dataypes that are used by other vendors into a type that MySQL supports. Figure 3 is this conversion table. According to the documentation [1], "Data type mapping occurs at table creation time, after which the original type specifications are discarded. If you create a table with types used by other vendors and then issue a DESCRIBE ***tbl\_name*** statement, MySQL reports the table structure using the equivalent MySQL types."

A screenshot of a computer

Description automatically generated

Figure 3 [2]

Figure 4 and Figure 5 are examples of the conversion taking place. The table is created with unsupported datatypes, but when the table is described by MySQL you can see it is using the converted datatypes.

A screenshot of a computer

Description automatically generated

Figure 4 [1]

A screenshot of a computer

Description automatically generated

Figure 5

In fact, the MySQL workbench tool will also do the conversion for you if you try to input an unsupported type. This came up when creating the Enhanced Entity Relationship diagram for a variable that we had intended to be boolean. Figures 6 and 7 demonstrate this.

A screenshot of a computer

Description automatically generated A screenshot of a computer

Description automatically generated

Figure 6 – Attempting to Input Boolean Figure 7 –Converts Boolean to TinyInt

# 4. GitHub Repository

To provide version control for our project, we are using GitHub:

<https://github.com/ReemPatel13/MSCS-542L-256_WarehouseManagementSystem_EmbraceDatabase>

# Works Cited

[1] MySQL 101 - Episode 07 : Data Types (English). YouTube, 2023.

[2] “MySQL 8.0 Reference Manual :: 11.9 using data types from other database engines,” MySQL, <https://dev.mysql.com/doc/refman/8.0/en/other-vendor-data-types.html> (accessed Oct. 3, 2023).

[1] Pankaj, “SQL data types,” DigitalOcean, <https://www.digitalocean.com/community/tutorials/sql-data-types> (accessed Oct. 4, 2023).