PROJECT TITLE: BEAVERS SCOOTERS MANAGEMENT SYSTEM

site: https://web.engr.oregonstate.edu/~amarem/340/index.html

PROJECT GROUP 30

TEAM MEMBERS
1. Amiin Samatar
2. Michael Amare

Feedback by the peer reviewers Part 3

Jackson Myers

Hey Group 30!

Does the schema present a physical model that follows the database outline and the ER logical diagram exactly?

Group 30 did not present a physical model with their PDF so there is not currently one that follows the database outline and the ER logical diagram.

Is there consistency in a) naming between overview, outline, ER and schema entity/attributes b) entities plural, attributes singular c) use of capitalization for naming?

There is no schema to compare to but the ERD and outline does have some inconsistencies. Although the entities are consistent with pluralization, in the ERD the entity titles are not capitalized like they are in the outline.

Is the schema easy to read (e.g. diagram is clear and readable with relationship lines not crossed)?

There isn't a Schema in the current draft.

Are intersection tables properly formed (e.g. two FKs and facilitate a M:N relationship)?

In the ERD there seems to be an intersection table but the layout is slightly hard to read because everything in the diagram is in a straight line and the intersection table is only connected to one of the tables it is intersecting.

Does the sample data suggest any non-normalized issues, e.g. partial dependencies or transitive dependencies?

There isn't any data present that causes issues with normalization as far as I can tell.

Is the SQL file syntactically correct? This can be easily verified by using PHPMyAdmin and your CS 340 database (do not forget to take backup of your own database before you do this!)

The SQL file provided works and is syntactically correct.

In the SQL, are the data types appropriate considering the description of the attribute in the database outline?

In the SQL file the selected data types are appropriate based off the description and atrribute in the database outline

In the SQL, are the primary and foreign keys correctly defined when compared to the Schema? Are appropriate CASCADE operations declared?

In the SQL file, the primary and foreign keys are correctly defined when looking at the groups ERD but there is no schema provided to compare to. The SQL file also doesn't declare any CASCADE operations.

In the SQL, are relationship tables present when compared to the ERD/Schema?

In the SQL file, the relationship tables that are in the ERD are present and correct (when compared to the ERD) but there is no schema to compare it to.

In the SQL, is all example data shown in the PDF INSERTED?

In the SQL file, there is example data that is inserted but there is not example data provided/shown in the PDF inserted.

Is the SQL well structured and commented (e.g. hand authored) or not (e.g. exported from MySQL)?

The SQL file is well structured with short and concise comments but they could be slightly longer for further clarification in some places.

Overall it is a great draft but where it takes the biggest hit is just not having the Schema. Besides the schema I would try to make the layout of the ERD a little bit easier to read and add a little bit more in depth of comments. Great job guys!

Andrew Ketola

Does the schema present a physical model that follows the database outline and the ER logical diagram exactly?

There is no schema present in the PDF.

Is there consistency in a) naming between overview, outline, ER and schema entity/attributes b) entities plural, attributes singular c) use of capitalization for naming?

The ERD's naming conventions are consistent, although the convention used in much of the class has been capitalization for table names. There is no schema for me to review.

Is the schema easy to read (e.g. diagram is clear and readable with relationship lines not crossed)?

Only an ERD is present, so I cannot answer this question.

Are intersection tables properly formed (e.g. two FKs and facilitate a M:N relationship)?

Going off of the ERD, it appears that the intersection table is properly formed, but the structure of the diagram itself makes it difficult to see this as all tables are in a straight line.

Does the sample data suggest any non-normalized issues, e.g. partial dependencies or transitive dependencies?

There isn't any data present that causes issues with normalization as far as I can tell.

Is the SQL file syntactically correct? This can be easily verified by using PHPMyAdmin and your CS 340 database (do not forget to take backup of your own database before you do this!)

The SQL works properly and has correct syntax.

In the SQL, are the data types appropriate considering the description of the attribute in the database outline?

Yes, the data types are appropriate for their purposes in the database.

In the SQL, are the primary and foreign keys correctly defined when compared to the Schema? Are appropriate CASCADE operations declared?

The keys are defined correctly when compared to the ERD, but there is no schema. There aren't any CASCADE statements though.

In the SQL, are relationship tables present when compared to the ERD/Schema?

All tables present in the ERD exist in the SQL.

In the SQL, is all example data shown in the PDF INSERTED?

There is no example data in the PDF.

Is the SQL well structured and commented (e.g. hand authored) or not (e.g. exported from MySQL)?

The SQL is well-commented, with each comment being under 10 words but clearly explaining what the instructions below are doing.

Gregory Lion

- **Does the schema present a physical model that follows the database outline and the ER logical diagram exactly?**

There seems to be no schema present, only the ER logical diagram.

- **Is there consistency in a) naming between overview, outline, ER and schema entity/attributes b) entities plural, attributes singular c) use of capitalization for naming?**

There is consistency between naming in the outline and ER, and the entities are plural while the attributes are singular. However, the entities are not capitalized, and it should probably be preferred that they are for organization purposes.

- **Is the schema easy to read (e.g. diagram is clear and readable with relationship lines not crossed)?**

There is no schema, but what confuses me about the ERD is that it seems that the Orders table has a relationship with the Customers table, but for some reason the ERD shows the Orders table getting the customer_id from the Products table.

- **Are intersection tables properly formed (e.g. two FKs and facilitate a M:N relationship)?**

As provided by the ER, yes.

- **Does the sample data suggest any non-normalized issues, e.g. partial dependencies or transitive dependencies?**

All of the data should be independent of one another, so no problems with dependencies.

- **Is the SQL file syntactically correct? This can be easily verified by using PhPMyAdmin and your CS 340 database (do not forget to take backup of your own database before you do this!)**

Yes, the sql is syntactically correct and works by importing it through PhPMyAdmin.

- **In the SQL, are the data types appropriate considering the description of the attribute in the database outline?**

The datatypes seem to be appropriate.

- **In the SQL, are the primary and foreign keys correctly defined when compared to the Schema? Are appropriate CASCADE operations declared?**

All the foreign and primary keys are correctly defined. However, no CASCADE operations are declared, so I would recommend adding a delete and update one for every foreign key.

- **In the SQL, are relationship tables present when compared to the ERD/Schema?**

Yes, the order_products is present in the sql.

- **In the SQL, is all example data shown in the PDF INSERTED?**

There is data that is correctly inserted in the sql, though there is nothing to compare it to in the pdf.

- **Is the SQL well structured and commented (e.g. hand authored) or not (e.g. exported from MySQL)?**

The SQL is organized with some simple but clear commenting above the creation tables and their insertions.

Jackson Van Dyke
Nice work Group 30!

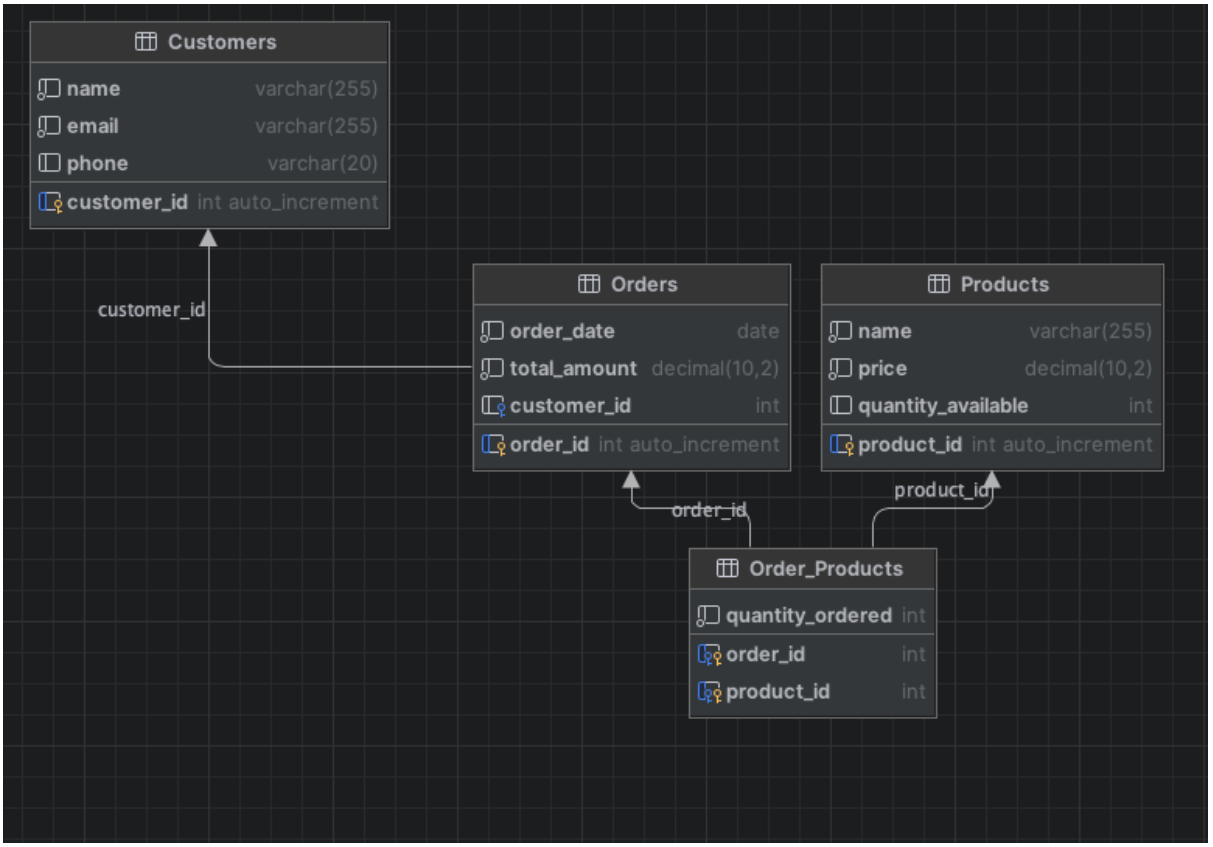
- **Does the schema present a physical model that follows the database outline and the ER logical diagram exactly?**
    - **There is an ERD diagram present but no schema.**

- **Is there consistency in a) naming between overview, outline, ER and schema entity/attributes b) entities plural, attributes singular c) use of capitalization for naming?**
    - **The naming between the outline and ERD use similar spelling and capitalization. The PDF is missing the overview.**
- **Is the schema easy to read (e.g. diagram is clear and readable with relationship lines not crossed)?**
    - **No schema on PDF**
- **Are intersection tables properly formed (e.g. two FKs and facilitate a M:N relationship)?**
    - **No schema on PDF**
- **Does the sample data suggest any non-normalized issues, e.g. partial dependencies or transitive dependencies?**
    - **No sample data present on PDF**
- **Is the SQL file syntactically correct? This can be easily verified by using PhPMyAdmin and your CS 340 database (do not forget to take backup of your own database before you do this!)**
    - **The SQL file is syntactically correct.**
- **In the SQL, are the data types appropriate considering the description of the attribute in the database outline?**
    - **All of the data type are appropriate for the attribute as described in the outline.**
- **In the SQL, are the primary and foreign keys correctly defined when compared to the Schema? Are appropriate CASCADE operations declared?**
    - **All of the primary and foreign keys are correctly defined.**
- **In the SQL, are relationship tables present when compared to the ERD/Schema?**
    - **When looking at the SQL file, the Order_Products correctly handles the M-M relationship between the Orders and Products tables.**
- **In the SQL, is all example data shown in the PDF INSERTED?**
    - **When looking at the example data in phpmyAdmin or the SQL file there is example data inserted. It seems to be correctly inserted, it however isn't present on the PDF.**
- **Is the SQL well structured and commented (e.g. hand authored) or not (e.g. exported from MySQL)?**
    - **The SQL file has basic comments that explain what each section of code does. This is likely sufficient but more detailed comments would add further understanding.**

Final Thoughts: Needs a little work, add the schema to the PDF and the example data, but on the right track.

Actions based on the feedback

Added schema



Added example data

order_id	order_date	total_amount	customer_id
1	2023-10-01	1199.98	1
2	2023-10-02	1599.97	2
3	2023-10-03	1399.96	1

product_id	name	price	quantity_available
1	Electric Scooter Model A	599.99	100
2	Electric Scooter Model B	799.99	50
3	Electric Scooter Model C	699.99	80

order_id	product_id	quantity_ordered
1	1	2
1	2	1
2	2	3
3	1	1
3	3	2

customer_id	name	email	phone
1	Michael Amare	michael.amare@gmail.com	123-456-7890
2	Amiin Samatar	amiin.samatar@outlook.com	098-765-4321
3	Anthony Edwards	ant.man@timberwolves.com	NULL

Feedback by the peer reviewers

Devon Ceccacci

Does the overview describe what problem is to be solved by a website with DB back end?

- Yes. Adventure Bikes is facing challenges in managing their sales orders and customer information, therefore a database for their order management.

Does the overview list specific facts?

- Yes, it had some. It mentioned that it is one of the top ten bicycle dealers in America, and that their annual revenue is over $20 million.
- I personally would like to know more about how many customers, or how many actual sales that are made to get a better understand a little more about how much traffic they expect through their database.

Are at least four entities described and does each one represent a single idea to be stored as a list?

- Yes, there are four entities, Customer, Product, Orders, and a junction table that represents the M:N relationship between Orders and Products.
- Each one seems to represent a single idea that can be stored as a list.

Does the outline of entity details describe the purpose of each, list attribute datatypes and constraints and describe relationships between entities?

- Yes, they do. Each entity tells you what purpose it has in the database, and each attribute tells you of its datatype, and if it has any constraints.

Are 1:M relationships correctly formulated? Is there at least one M:M relationship? Does the ERD present a logical view of the database?

- Almost. The connection between customer and orders is correct, and from orders to order_products is also correct, but since Order_Products in a junction table, it should also be connected to Products with a M:1, while products shouldn't be directly connected to Orders, since it's using this junction table as a go between for the M:N relationship of orders and products.

Is there consistency in a) naming between overview and entity/attributes b) entities plural, attributes singular c) use of capitalization for naming?

- There is a slight difference between the ID attributes and the others. For instance you use underscores to break apart the words in each attribute, I would probably make the ID's the same, so customerID would be customer_id. Though each ID is consistent in this way, it still shows some consistency with it still.
- The plural and singular of the entities vs attributes is correct, and the use of capitalising looks correct as well.

Em Rickrode

Does the overview describe what problem is to be solved by a website with DB back end?

The client of this project is Adventure Bikes, and they face "challenges in managing their sales orders and customer information effectively." While this does summarize a problem that could be solved by a website with a database backend, some additional context should be included. For instance, maybe the company has encountered recent, unexpected growth, and their existing sales orders and customer information system will not be able to handle their future volume of sales.

There is also an inconsistency in this overview. The first sentence refers to "their sales orders," while the third sentence uses the phrase "Sales-orders" with a hyphen. The wording should be consistent, or the distinction should be more clearly defined.

Does the overview list specific facts?

Yes, the overview includes specific facts.

- The company/client is named Adventure Bikes
    - The example given on Canvas is: "Adventure Bikes sells $20 million in bicycles annually. A database driven website will record SalesOrders of Products to Customers."
    - The "Example DB Schema" slide in the video on the page Exploration - Introduction to Databases includes a "schema for Adventure Bikes..."
    - I recommend changing the name of the company in your project to something unique. Otherwise, this could be considered plagiarism.
- They are ranked among the top ten bicycle dealers in America
    - Is the proposed order management system expected to impact their ranking?
- Their annual revenue is over $20 million
    - "Over" could be replaced with "approximately."

Are at least four entities described and does each one represent a single idea to be stored as a list? Does the outline of entity details describe the purpose of each, list attribute datatypes and constraints and describe relationships between entities?

There are four entities described (Customers, Products, Orders, and order_Products). The outline includes a section for the Purpose, Attributes, and Relationships for each entity, and each entity represents a single idea.

The Orders table includes the abbreviations "ORDS" and "PROD," which are not used anywhere else in this outline.

Are 1:M relationships correctly formulated? Is there at least one M:M relationship? Does the ERD present a logical view of the database?

In order to present a logical view of the database with correctly formulated 1:M and M:M relationships, there should be a relationship between the Products and Order_Products entities, and Products should not have a direct relationship with Orders.

- Customers can have 0 or more Orders
    - This is shown as 1:M in the ER Diagram
- Each instance of an Order is associated with 1 Customer
    - This is shown as M:1 in the ER Diagram
- Orders can include 1 or more Order_Products
    - This is shown as 1:M between Orders and Order_Products
- Each Order_Products instance is associated with 1 Order
    - This is shown as M:1 in the ER Diagram
- Each Order_Products instance is associated with 1 Product
    - This should be included on the ER Diagram
- Products can be on 0 or more Order_Products
    - This should be included on the ER Diagram

There is one M:M relationship (Products and Orders, with Order_Products as the intersection table).

Is there consistency in a) naming between overview and entity/attributes b) entities plural, attributes singular c) use of capitalization for naming?

The entity names are consistent. The first letter of each word in each entity name is capitalized, and names with multiple words are separated by an underscore. The entity names are all plural, and they all use capitalization consistently.

The attribute names are inconsistent. The attribute names are all singular, but they do not all use capitalization consistently. While most of the attributes are written in snake case, all of the attributes that include "ID" are inconsistent with this format. I recommend changing all of these attributes to use the following pattern:

- customer_id
- order_id
- product_id

Nicholas Herman

Does the overview describe what problem is to be solved by a website with DB back end?

- Yes, managing customer and order information. The overview also implies a very large nation wide customer base, that a centralized order database can help solve.

Does the overview list specific facts?

- Yes, an annual revenue is called out, but specifics about orders and customers are not. These would be more relevant to the scale that the database needs to operate on.

Are at least four entities described and does each one represent a single idea to be stored as a list?

- Yes, there are four entities: Customers, Products, Orders, and Order_Products that each represent a single idea and can be stored as a list

Does the outline of entity details describe the purpose of each, list attribute datatypes and constraints and describe relationships between entities?

- The purpose of each entity is described well. Attribute datatypes are all listed, although there is some inconsistency in the formatting of the attribute properties. Relationships are described, though some of these do not agree with the ERD. Customers should have a M relation with Orders, and some of the relations to Products seem to be missing.

Are 1:M relationships correctly formulated? Is there at least one M:M relationship? Does the ERD present a logical view of the database?

- The 1:M relationship between orders and customers is correctly formulated. The M:M relation between orders and products is not. Order_Products and Products should have a relation and Products should not relate directly with Orders.

Is there consistency in a) naming between overview and entity/attributes b) entities plural, attributes singular c) use of capitalization for naming?

- Yes, for the most part naming is quite consistent. The ID attributes are the only inconsistency, with all the other attributes being in snake case.

Jacqueline Paulitz

Does the overview describe what problem is to be solved by a website with DB back end?

Yes, the overview describes a very real life situation that many businesses face. How to maintain their customer data system in order to grow while maintaining sales order organization.

Does the overview list specific facts?

The project does state total revenue, however I don't know anything about the types of customers and their orders size or frequency.

Are at least four entities described, and does each one represent a single idea to be stored as a list?

Yes, there are four entities and the purpose is explicitly stated. They can be stored in a list.

Does the outline of entity details describe the purpose of each, list attribute data types and constraints, and describe relationships between entities?

Yes, however, there are some discrepancies in formatting. I don't think the ERD maps the relationships as the data outline states.

Are 1:M relationships correctly formulated? Is there at least one M:M relationship? Does the ERD present a logical view of the database?

Almost. There are some inconsistencies as stated in previous answer. I believe it is withing the M:M relationship.

Is there consistency in a) naming between overview and entity/attributes b) entities plural, attributes singular c) use of capitalization for naming?

No, there is both camel case and snake case in attributes. Otherwise, it is consistent.

Overall, I like the project. Nice job with a highly applicable topic.

Actions based on the feedback

- Changed product name
- Made attribute name changes
- Added sales/customer details too overview

Upgrades to the Draft version

- None

a) Overview

Beavers Scooters, ranked as one among top ten bicycle dealers in America with approximately $20 million annual revenue and 40,000 individual sales/customers, faces challenges in managing their sale orders and customer information effectively. Therefore, we suggest the establishment of a database-based site for its resolution.

The order management system will be used for sale orders to create a new record for every product sold to a customer while at Beavers Scooters. With millions at stake in revenues and

diverse products as part of a huge enterprise, the need for a scalable and robust database cannot be overstated.

b) Database Outline, in Words

1. Customers Table:

Purpose:

- Details the customers with which Beavers Scooters deals.

Attributes:

- customer_id: int, autocreate_indexId, createunique, notnull, PK.
- name: varchar, not NULL
- email: varchar, not NULL
- phone: varchar

Relationships:

- 1: Mapping of Customer IDs into Orders.

2. Products Table:

Purpose:

- Beavers Scooters Storage Information on the Products.

Attributes:

- product_id: int, yes, unique, NOT NULL, PRIMARY KEY.
- name: varchar, not NULL
- price: decimal, not NULL
- quantity_available: int

Relationships:

- None

3. Orders Table:

Purpose:

- Records customer-made entries into the sale orders.

Attributes:

- order_id: int, auto_increment, unique, not null, primary key.
- order_date: date, not NULL
- total_amount: decimal, not NULL

Relationships:

- 1: Orders – Customer (customerID FK).
- M: Order_Products- a junction table implementing ORDS and PROD.

4. Order_Products (Junction Table for M: N Relationship):

Purpose:

- Supports the M:N order-to-product relationship.

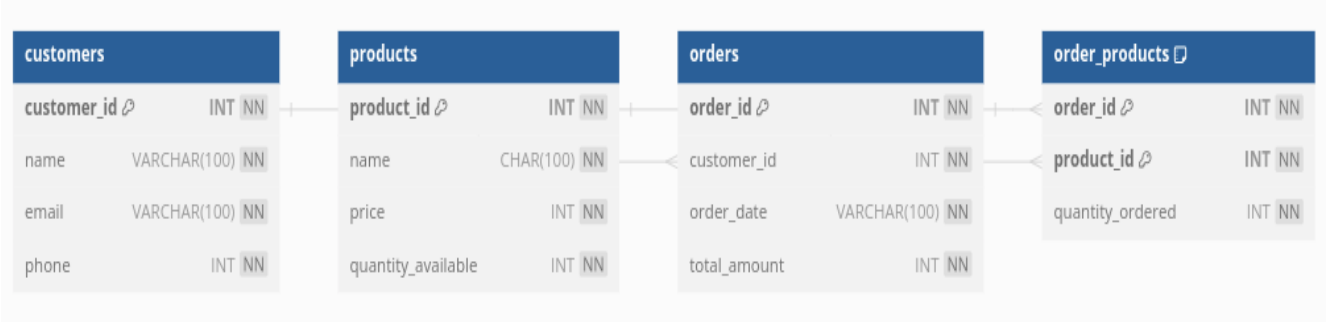
Attributes:

- order_id: Orders; Int, Not Null FK Orders.
- product_id: int, not null, reference products.
- quantity_ordered: int, not NULL

Relationships:

- M: Orders-Products Relation in the Supply Chain Management.

c) Entity-Relationship Diagram (ERD)



Conclusion

The Beavers Scooters Management System is the foundation of our proposal. In upcoming development phases, the precise entities and relationships will serve as solid building blocks. The ERD illustrates the database's logical structure and aids in visualising the system's design.