# Idea Marketplace — Seviss — Terence Brewer, Olivia Brewer, Steven Aque

Project 5: ER Diagram

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## 1 Background

Currently, there is nowhere on the Internet, at least indexed well, where someone can easily sell their personal intellectual property, including, but not limited to, ideas, consulting, fictional characters and premises, etc. so the desire for one to exist is what led to this project idea.

## 2 Web Analysis

1. Existing Sites That Are Relevant
   (a) Fiverr
      - Posts organized in categories
      - Reviews for posts
      - Reviews as seller
      - Direct communication with seller
      - Website collects a portion of profits from seller
      - Anyone can make an account and sell their service
      - Customer is not producted from seller malicious practices

   (b) DeviantArt
      - Search by popularity, new, and other filters
      - Customizable user profiles
      - Ability to follow users; display number of followers
      - Promote postings through a group system
      - Private and public messaging
      - Comments on user profiles
      - Pay for goods independently to seller
      - Show related posts on listing
      - Default dark theme

- Homepage features a gallery of images
- Images displayed in a grid-like fashion
- *Shop* user IP protected by copyrighted.com
- *Shop* premium currency can be used to make purchases
- *Shop* forced sign-in purchases

(c) Amazon

- Pay to promote listings
- Recommendations for listings
- Save previous purchases
- Indirect communication with seller
- Protected purchase information
- left navbar contains a variety of search filters
- Product categorization through "departments"
- "Best sellers" list for product types

(d) Ebay

- Option to auction goods
- Product categorization
- "Make an offer" option
- Any user can list products

(e) AminoApps

- Store to purchase cosmetics such as stickers
- Recommendations on intial page
- Required login to post
- Divided into hundreds of communities
- Chatrooms

(f) Craigslist

- Customer initiates sale through contact rather than "shopping cart" system
- Negotiable pricing
- Designed for users in close proximity
- Any user can list products

2. Functions We Want To Implement

(a) Search products by name

(b) Filter search results

(c) Recommend products on login

(d) Pagination

(e) Copright-protect products

(f) Premium currency with ability to earn

(g) Ability to auction

(h) Security of user data

(i) Have an economy

(j) Create and customize a profile, including profile picture

(k) Private messaging with sellers and other users

(l) Forced login to post or purchase

(m) Products are reviewed before they are made public

(n) Chatrooms / public discussion

(o) Product categorization

(p) Seller Rating

3. Table

| | Our System | Fiverr | DeviantArt | Amazon | Ebay | AminoApps | Craigslist |
|---|---|---|---|---|---|---|---|
| Search | V | V | V | V | V | V | V |
| Filter | V | V | V | V | V | V | V |
| Recommend | V | V | V | V | V | V | X |
| Pagination | V | V | X | V | V | X | V |
| Copyright | V | X | O | X | X | X | X |
| Premium currency | V | X | V | O | O | V | X |
| Auction | V | X | X | X | V | X | O |
| Security | V | V | V | V | V | V | X |
| Economy | V | X | X | X | X | X | X |
| User Profile | V | X | V | X | X | V | O |
| Private message | V | V | V | O | O | V | X |
| Forced login | V | X | V | X | O | V | X |
| Reviewed by Site | V | X | X | V | V | O | X |
| Chatrooms | V | X | V | X | X | V | O |
| Categorization | V | V | V | V | V | V | V |
| Seller Rating | V | V | X | V | V | X | X |

Table 1: V: Able to perform the task; X: Unable to perform the task; O: Able to perform the task with poor interactive design

# 3 Storyboard

1. Who is this site for? Buyers and Sellers of Intellectual Property
2. Storyboard Sketchup:
    - Pictures in previous assignment

# 4 ERDiagram

Section 4: ER Diagram

The purpose of this section is to demonstrate how our database will be designed. Our database will store important information for making our website dynamic, so making sure the database design is good will make the dynamic portion of the website easier.

This table stores all information related to the User. The User table has a connection to the picture table as it only has one profile picture.

This table stores all information for each product, such as price and creator. The Product table has a connection to the Category table due to each product having a category. It is connected to the User table because a product can only be sold by a single User.

This table stores all orders, both old and new. Each order only has one product, which is why there's a connection to the product table. They are also connected to the User table as the user is the buyer of this product. There is only a set number of statuses, so there is a connection to the status table to determine visually which status this order is in.

The Status table contains string values for all possible statuses an order can be in. It has no foreign keys as it is essentially a static table to be referenced by others.

The Category table contains string values for all possible categories a product can be. It has no foreign keys as it is essentially a static table to be referenced by others.

The Image table stores the paths of all uploaded images. It is connected to a User as only the uploader can use this image.

The Tag table stores all tags the user can allocate to a product. This table is connected to the product table because the same product can have multiple tags and the tags are not pre-defined.

The Save For Later table doubles as a watch list for the user. It is a list of products and uids, each stored on their list.

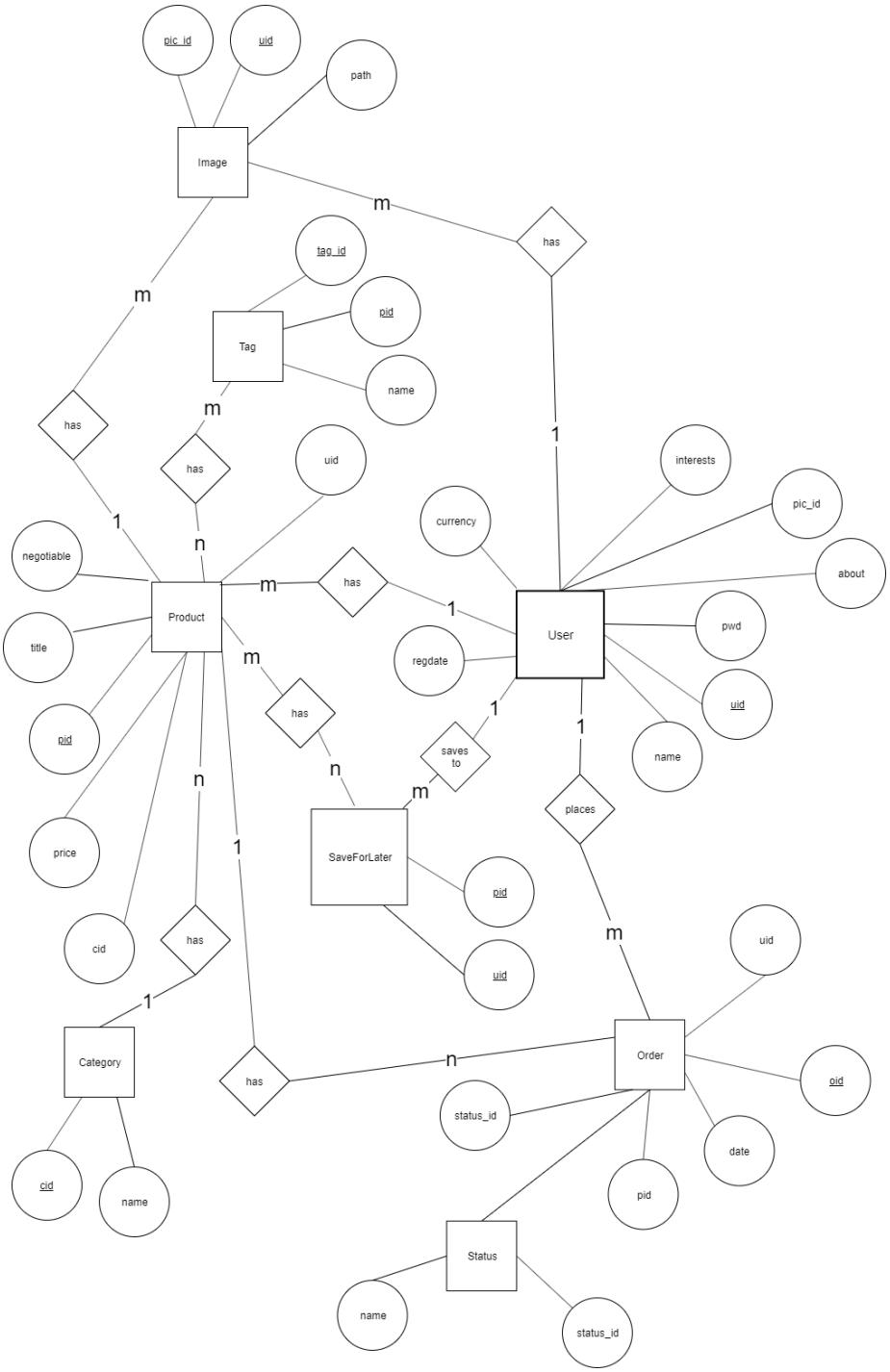


Figure 1: ER diagram.

| Primary Key | Field Name | Data Type | Non-null | Unique | Binary | Foreign Key | Comments |
|---|---|---|---|---|---|---|---|
| V | uid | varchar(16) | V | V | X | X | Username |
| X | pwd | varchar(64) | V | X | V | X | Stored hash of Password |
| X | name | varchar(64) | X | X | X | X | Name of user that displays on their profile |
| X | interests | varchar(128) | X | X | X | X | Text field of interests on user profile |
| X | about | varchar(128) | X | X | X | X | Text field of about the user on user profile |
| X | currency | int | V | X | X | X | The amount of virtual currency the user has |
| X | regdate | datetime | V | X | X | X | The date user registered |
| X | picid | int | X | X | X | V | Profile picture of the user |

Table 2: User Table

| Primary Key | Field Name | Data Type | Non-null | Unique | Binary | Foreign Key | Comments |
|---|---|---|---|---|---|---|---|
| V | pid | int | V | V | X | X | ID of the product |
| X | uid | varchar(16) | V | X | V | V | Username of the seller |
| X | price | float | V | X | X | X | Price of the product |
| X | title | varchar(64) | V | V | X | X | The name of the Product |
| X | negotiable | boolean | V | X | X | X | Whether the product displays as negotiable or not |
| X | cid | int | V | X | X | V | ID of category in which this product belongs |

Table 3: Product Table

| Primary Key | Field Name | Data Type | Non-null | Unique | Binary | Foreign Key | Comments |
|---|---|---|---|---|---|---|---|
| V | oid | int | V | V | X | X | ID of the order |
| X | uid | varchar(16) | V | X | V | V | Username of the buyer |
| X | pid | int | V | X | V | V | Product of the order. Each order only has 1 product. |
| X | creationdate | datetime | V | X | X | X | When the order was created. |
| X | statusid | int | V | X | X | V | ID of status. Status is used for storing metadata on orders. |

Table 4: Order Table

| Primary Key | Field Name | Data Type | Non-null | Unique | Binary | Foreign Key | Comments |
|---|---|---|---|---|---|---|---|
| V | statusid | int | V | V | X | X | ID of the status |
| X | name | varchar(16) | V | V | X | X | Name of the status, i.e. Fulfilled, Cancelled, Ongoing, etc. |

Table 5: Status Table

| Primary Key | Field Name | Data Type | Non-null | Unique | Binary | Foreign Key | Comments |
|---|---|---|---|---|---|---|---|
| V | cid | int | V | V | X | X | ID of the Category |
| X | name | varchar(32) | V | V | X | X | Name of the category, i.e. Music, Original Characters, etc. |

Table 6: Category Table

| Primary Key | Field Name | Data Type | Non-null | Unique | Binary | Foreign Key | Comments |
|---|---|---|---|---|---|---|---|
| V | picid | int | V | V | X | X | ID of the Picture |
| V | uid | varchar(16) | V | X | X | V | The user who uploaded the picture. Both act as the primary key. |
| X | path | varchar(128) | V | V | X | X | The path to the picture on the server |

Table 7: Image Table

| Primary Key | Field Name | Data Type | Non-null | Unique | Binary | Foreign Key | Comments |
|---|---|---|---|---|---|---|---|
| V | tagid | int | V | V | X | X | ID of the Tag |
| V | pid | int | V | X | X | V | The product this tag has been assigned to. Doubles as primary key. |
| X | name | varchar(32) | V | X | X | X | The path to the picture on the server |

Table 8: Tag Table

| Primary Key | Field Name | Data Type | Non-null | Unique | Binary | Foreign Key | Comments |
|---|---|---|---|---|---|---|---|
| V | pid | int | V | X | X | X | ID of the Product to be saved |
| V | uid | varchar(16) | V | X | X | V | The user who saved the product. Both act as the primary key. |

Table 9: Save-For-Later Table