

# CS 425 Project

Daniel Diaz, A#:20480127

Hugo Michael Hernandez, A#:20501137

## Project Idea:

The general idea for our project will be an arcade-machine rental platform. Users of the platform will be able to register an account and search throughout a variety of different games for them to rent.

## Data Requirements:

### Users:

- For users, we should be able to keep track of their name, their email address, and their password. Users will be differentiated between individual customers and businesses, which will have different options. There will also be a membership program that will give extra benefits to participants.

### Individual Customers:

For individual customers, we should record some of the following

- Arcade machines that they are currently renting
- Any preferences they have set for what machines they are looking for (I.e, they might want to filter out certain games by cost to rent, date made, etc.)
  - Payment info (Both the medium like a credit card and payment address)
    - Whether or not they are a part of the membership program.
- Relative location (Gives area of proximity where machines can be reasonably delivered, they may want the machine to be a location apart from their house.)

### Businesses:

For businesses, we will record some similar information but also some different

- Main method of contact (Whether that be an individual in charge of ordering or a team representing the business)
  - Any preferences in machines
    - Payment info
- Machines they are currently renting (Businesses will be able to rent out more at once for events)
  - Relative Location

### Machine Information:

There will be different types of games with their own distinct properties

### Arcade Video Games:

These are the most common type of arcade game, but there is a lot of variety between them

- Name
- Date of Release
- Size (Dimensions)
- Power Usage
- Number of Players/Controllers
- Does it give tickets?
- Current Renter
- Expected Return of Rental Date (Could be overdue)
  - Price per Day
- Storage location (This can also be accomplished by using different tables for each location of storage)
  - Current Location
- Delivery Status (Sitting/Delivering/Delivered/Returning)

#### Additional Info:

For each arcade game, we can also store some info about that particular game like:

- Difficulty
- Average Rating
- Audience Age
- Average Tickets given per coin
- Is it Competitive (if not, assume cooperative)

### Crane Games

Crane games have a lot of variable components to account for, most notably their prizes

- Name
- Date of Release
- Size (Dimensions)
- Size of Crane (Larger can hold bigger prizes but drop smaller ones)
  - Power Usage
- Prizes (Leads to another table)
  - Current Renter
  - Expected Rental Return Date
- Success Chance (Many crane games actually only grip at full strength randomly)

#### Additional information

- Storage Location
- Price per day

- Current Location
- Delivery Status (Sitting/Delivering/Delivered/Returning)

Additional information:

We also need to store information about the actual prizes. Many crane games offer multiple prizes.

- Name
- Size
- Amount per Shipment(Renters can buy shipments to fill it up. They can also choose not to and fill it with their own prizes)
- Shipment cost

Auctionable Games:

Whether we need to free up space or just want to get rid of a machine, we can auction

- Machine name
- Starting Bid
- Highest bid
- Current Winning Bidder
- or Auction End Date (No bids past these date)
- Storage Location (This can be more generous for customer range since it is a permanent delivery)
- Delivery Status (Sitting/Delivering/Delivered)

## Application Requirements:

Both individual renters and

Individual renters can join a membership program for a monthly subscription that will provide different benefits.

Both should be able to update their own information.

Individual renters can change their payment info and location

Businesses can do so as well as any point of contact.

Users should be able to set their preferences to filter the machines so they can easily find what they are looking for. (For example, a user can filter out arcade machines that do not fit multiple players or filter out machines that would be too expensive for their budget or too big for their location)

They should also be able to see their currently rented machines as well and their details, especially the date to return.

Of course, Users should be able to rent out available machines while having the ability to browse the arcade games. While browsing, they should be able to see the details of the machines as well any particulars, such as the game or crane prizes.

They will only be able to rent a certain number of machines at once, the limit differing depending on their status. A starting example would be a max of two machines for basic individual renters, but increased for participants in the membership program and available on a large scale for businesses and their events.

To prevent hogging of any machines, there will be a maximum length of rental. This will be extended for members and businesses as well.

Users should be able to mark their machine as returned before the ordered rental end date. That will alert it to be picked up and brought back.