**Castle Hill Gaming Pets App**

**IMPORTANT: You have 48 hours to create the app and send the entire solution and associated files back.**

**Notes:**

1. **The App must run on a Windows 10 desktop environment without the need for any additional software (e.g. web server, database server, etc)**
2. **Only the C# .NET Framework libraries included as part of Visual Studio may be used. No outside libraries, NuGet packages, or other frameworks will be accepted.**

**Requirements**

Create a C# application that allows you to feed and interact with a collection of pets you have acquired from a store. Below are the requirements for the application:

User interface actions:

1. List pets in the store.
2. Acquire pets from a pet store and put them into your collection.
3. Remove pets from your collection.
4. Feed the pets. Available foods:
   1. Bacon Snack
   2. Dry dog food
   3. Tuna
   4. Dry cat food
   5. Water (if implementing Plant pet)
   6. Plant food (if implementing Plant pet)
   7. Fish food (if implementing Fish pet)
5. Interact with the pets. Interactions:
   1. Pet
   2. Rub Belly
   3. Play
   4. Ignore
   5. Scold
   6. Play Music (if implementing bonus pets)
   7. Talk to them (if implementing bonus pets)
   8. Tap on Glass (if implementing bonus pets)
6. Request and view the current state of your pets.

Rules:

1. Must name pets when you get them from the store.
2. Feeding foods the pet does not like lowers their happiness by 2 and raises hunger by 2.
3. Interacting in a manner that the pet does not have a rule for (see below) lowers happiness by 2 and raises hunger by 2.
4. Over time if you do not feed your pets, they will lose happiness and increase hunger. (See pets below for info on timing)
   1. You can decide if this happens in real time or is updated when you feed or interact with them next.
5. If a pet’s hunger level gets above the Max Hunger value or their Happiness gets to 0 or below, it will not interact with you until you have fed them enough to bring hunger below Max Hunger and Happiness above zero.

**Required Store Pets**

Dog – Starting Hunger Level 2, Starting Happiness 5, Max Hunger level 10, Max Happiness 10. Every 2 minutes gain 1 hunger and lose 1 happiness if not fed.

Liked Foods:

* + Bacon Snack – Halves current hunger, +1 to happiness
  + Dry Dog Food – Sets hunger to 0, +1 to happiness

Liked Interactions:

* + Rub belly – +1 to hunger, +1 to happiness
  + Play – +3 to hunger, +2 to happiness
  + Scold – +2 to hunger, -2 to happiness

Cat – Starting Hunger Level 2, Starting Happiness 4, Max Hunger level 8, Max Happiness 5. Every 2 minutes gain 1 hunger and lose 1 happiness if not fed.

Liked Foods:

* + Tuna – Sets hunger to 0, +3 to happiness
  + Dry Cat Food – Halves hunger, +1 to happiness

Liked Interactions:

* + Pet – +1 to hunger, +1 to happiness. Randomly the cat will dislike this action which means the action will fall under Rule #3 above.
  + Ignore – +1 to hunger, +2 to happiness
  + Scold – +2 to hunger level, -2 to happiness

**Bonus Extras**

The following extras are not required but can be used to improve your application.

Additional app functionality:

1. Save pet state as things change so that the app can start back up in the same place when it is shutdown.
2. Implement the following pets:

**Bonus Store Pets**

Plant – Starting Hunger Level 5, Starting Happiness 2, Max Hunger level 6, Max Happiness 5. Every 1 minute gain 1 hunger and lose 1 happiness if not fed.

Liked Foods:

* + Water – Halves current hunger, +1 to happiness
  + Plant Food – Sets hunger to 0, +1 to happiness

Liked Interactions:

* + Talk to them – +1 to hunger, +1 to happiness
  + Play music – +1 to hunger, +2 to happiness
  + Ignore – +3 to hunger, -3 to happiness

Fish – Starting Hunger Level 2, Starting Happiness 2, Max Hunger level 5, Max Happiness 5. Every 3 minutes gain 1 hunger and lose 1 happiness if not fed.

Liked Foods

* + Fish Food – Sets hunger to 0, +1 to happiness

Liked interactions:

* + Play music – +1 to hunger, +1 to happiness
  + Talk to them – +1 to hunger, +1 to happiness
  + Tap on glass – +3 to hunger level, - 2 to happiness