22/4/20

**Requirements Engineering**

Functional requirements:

Game length (5<x>10) days

Farmer name (len 3-15) no numbers or special characters

Crops:Corn, wheat, Potatoes, Rice, Tomatoes, grapes (need 6) Kelp/Fish food, coral??, soybeans, carrots

Animals: Fish, Cows, Chickens, sheep, goats (only need 3)

4 different farm types:

· Fish farm  
Raises max fish ownable from 10 -> 100?  
Crop growing speed 50% unless aquatic or hydroponic  
Animal happiness - only fish

Dairy farm

Crop growing speed 90% (for feed)  
 Increased cow happiness

· Poultry farm

Crop growing speed 90%  
 Increase chicken happiness

· Crop farm

Crop growing speed 125%

Farm name

Start money

Action set (only 2 actions per day)

· Tend to crops

speeds growing

only tend one type of crop in action

uses water (free) or an item (fertiliser? From store?)

· Feed animals

increase healthiness

uses feed

· Play with animals

increase happiness

· Harvest crops

harvest fully grown crops

· Tend farm land

Keeps farm tidy

Allows more crops to be grown

Animals happier for longer

Stats action set (inf actions per day)

· view status of crops and animals

crops:

time spent growing

time left until harvestable

animals:

happiness

· view farm status (money)

· visit store:

view items (crops, animals, farming supplies) and properties w/ prices

show players current stock and current money

purchasable

buy multiple items without leaving store

· go to next day:

even if has actions left

bonus $ for animal welfare (happiness and healthiness)

Random events (day start)

Drought

(a) The wells have dried up, and the crops are thirsty. (b) The player loses half of their growing crops. The exact crops are determined randomly

Broken fence(/Predator raid(fox, coyote), Fish(broken net)?

(a) One or more of your animals have escaped through a broken fence. (b) The player loses one or more of their animals, the exact number determined randomly. (c) The remaining animals lose a substantial amount of happiness.

County fair

(a) Your farm has won the top award at the annual county fair. (b) The player earns a reasonable sum of money. (c) The amount of money earned should be scaled by the number of crops and animals the farm contains.

After all days are completed, the game should end. A screen should display the farm’s name, the game’s duration in days, and the profit the farm made in this time. A final score should be displayed. How you score is up to you, but we recommend looking at game duration, number of crops and animals, animal status, and money earned.

Extra credit function implementations:

Save game state

Storyline (characters, plot, dialogue)

Customise farm (animal names, art)

Play background music

**Design and Architecture**

|  |
| --- |
| Farm |
| name  type Farmer  cropList animalList money |
|  |

|  |
| --- |
| Farmer |
| name  age  extra(skills, avatar) |
|  |

|  |
| --- |
| Crops |
| type  purchasePrice  salePrice  growthTime |
|  |

|  |
| --- |
| Animals |
| Type  name  purchasePrice  salePrice  giveMoneyTending  health  happiness |
|  |

|  |
| --- |
| Item |
| name  purchasePrice  salePrice  should specify the health given (for food items for animals), or the number of days the harvest time for crops has been sped up by (if it is a crop item). |
|  |