# Status variables

* Health
  + When you have 0 health, you are dead
  + Default 10 (100%)
  + Lose 1 health from Space Plague, Degrades over time (2 per day), No energy, No nutrition, No shields
  + Gain health from Medical items
* Energy (Tiredness)
  + When you have 0 Energy, you lose 1 health every day
  + Default 10 (100%)
  + Lose 1 energy per action (except sleeping), and 1 per day, and from No nutrition
  + Gain Energy by sleeping (gain 4)
* Nutrition (Hunger)
  + When you have 0 nutrition, you lose 1 health and energy every day
  + Default 10 (100%)
  + Lose 1 nutrition per action
  + Gain nutrition by eating Food items
* Money (Independent of crew members)
  + Default $100
  + Lose money buy purchasing items
  + Can find money ($10-$30), $20 at the end of the day (Can sell items maybe)
* Spaceship shield (Independent of crew members)
  + When you have 0 shield, remove 1 health from all crew members every day
  + Default 5 (50%)
  + Lose 3 when going through an Asteroid field
  + Gain shield by repairing the ship (gain 2)

# Random Events

* Alien Pirates
  + 20% chance every day
  + Steal one random item
* Space Plague
  + 20% chance every day
  + Infect
* Asteroid Belt
  + 30% chance on piloting ship
* Finding stuff on a planet
  + 20% for finding parts, 20% for medical items, 20% for food, 20% for money, 20% for nothing
  + If part is found on that planet, 40% for nothing

# Crew Types

|  |  |  |  |
| --- | --- | --- | --- |
| Type | Plus | Minus | Default Name |
| Human | 1 health restored at end of each day | 2 less maximum health (8 Health) | Donald Trump |
| Robot | 2 nutrition restored at end of each day | 5 less total energy (5 Energy) | Terminator |
| Cyborg | 40% chance of finding a part | 10% chance to find food, medical supplies or money (10% for each) | Elon Musk |
| Alien | 2 more maximum health (12 Health) | 2 less maximum nutrition (8 Nutrition) | Steve Jobs |
| Lizard | 1 energy and nutrition restored at end of each day | Repairs ship shields 1 less | Mark Zuckerburg |
| Unicorn | 2 energy restored at end of each day | Starts with the space plague | Rapidash |

# Medical items

* Cure for space plague
  + $35
* Band-Aid
  + Restore 2 health
  + $10
* First Aid Kit
  + Restore 5 health
  + $23

# Food items

* Space Ration
  + Restore 4 nutrition
  + $18
* Water
  + Restore 2 nutrition
  + $10
* Banana
  + Restore 2 nutrition
  + $10
* Alien meat
  + Restore 5 nutrition
  + $22
* Coffee
  + Restore 2 nutrition
  + Restore 1 energy
  + $13
* Egg
  + Restore 3 nutrition
  + $14

# Menu design

Day number: <Day Number>/<Max days>

1) View Crew Member and/or do a Crew Member Action

<<Crew Member selection (actions available)>>

e.g. 1) Bob, Lizard

<Name>, <Type>

Health: <Health>/<MaxHealth>

Energy: <Energy>/<MaxEnergy>

Nutrition: Z

Strength: <Strength>

Weakness: <Weakness>

Actions remaining: <Actions>

1. Eat food or use medical supplies

<<Inventory item selection>>

e.g. 1) Banana, Restores 2 Health, Quantity: 4

This will <Restore something> to <Crew Member>.

Use <Item name>? You will have <Quantity> <Item name>(s) remaining.

1. Yes

<Crew Member> gained <X>

(e.g. Bob gained 2 nutrition and 1 energy)

1) Continue

1. No

i) Back to Crew Member actions

2) Sleep

Restored 4 Energy to <Name>

1. Continue

3) Repair Ship Shields

Restored 2 Shields to <Ship name>

1. Continue

4) Search planet

Found X e.g. Found spaceship part

1. Continue

IF GAME COMPLETE:

You have piloted the ship <Space Ship Name> to

victory and found all the missing parts of your

Ship!

Well done!

Final Score: <score>

5) Pilot the ship to a new planet

<<Crew Member Selection (actions available)>>

i) Back to Crew Member actions

6) Back to Crew Member selection

<<Crew Member selection (no actions available)>>

e.g. Karen, Robot (No actions remaining)

<Name>, <Type>

Health: X

Energy: Y

Nutrition: Z

Strength: <Strength>

Weakness: <Weakness>

Actions remaining: 0

1. Back to Crew Member selection
2. Back to control panel

2) View Spaceship status

<Name>

Shield level: X

Spaceship pieces found: Y

Spaceship pieces left to find: Z

1. Back to control panel

3) Visit the nearest space outpost

1. View objects for sale

<<Shop list>>

e.g. 1) Coffee, Restores 2 Nutrition and 1 Energy, 3 in stock, $13

<Name>

Restores X something

Price: <Price>

Quantity: <Quantity>

1. Purchase item
2. Back to shop

i) Back to space outpost

1. View Inventory

<<Inventory list>>

e.g. Banana, Restores 2 Health, Quantity: 4

1) Back to space outpost

1. Back to ship

4) Continue to next day

Daily Score: <value>

1. Continue

|  |
| --- |
| GameEnvironment |
| -partsToFind: int  -partsFound: int  -partFoundHere: Boolean  -shop: Shop  -dayNumber: int  -maxDays: int  -currentPlanet: String  -planetArray: ArrayList<<String>> (Europa, Titan, Io, Callisto, Oberon, Umbriel, Rhea, Phoebe, Ananke, Dactyl) |
| +newDay(): void  +completeAction(CrewMember crewMember): void  +createGame(): void  +endGame(boolean isVictory): void |

|  |
| --- |
| Ship |
| -shipName: String  -crewMembers: ArrayList<CrewMember>  -money: int  -inventory: Map<Consumable, int>  -shipShields: int  -score: int  -dailyScore: int |
| +getMoney(): int  +addMoney(int amount): void  +getCrewMembers(): ArrayList<CrewMember>  +getInventory(): Map<Consumable, int>  +getShipShields(): int  +addShipShields(int amount): void  +getScore(): int  +addScore(int amount): void |

|  |
| --- |
| <<interface>>  Consumable |
|  |
| +useItem(CrewMember crewMember) |

|  |
| --- |
| *CrewMember* |
| -ship: GameEnvironment  -status: Map<String, int> (“Health”: ?, “Energy”: ?, “Nutrition”: ?)  *-maxStat: Map<String, int> (“Health”: 10, “Energy”: 10, “Nutrition”: 10)*  -energy: int  -nutrition: int  -numActions: int  *-repairAmount: int*  *-spacePlague: Boolean*  *-name: String*  *-typeInfo: Map<String, String>* |
| +getStatus(): Map<String, int>  +addHealth(int amount): void  +addEnergy(int amount): void  +addNutrition(int amount): void  +getActions(): int  +searchPlanet(): void  +useItem(): void  +sleep(): void  +repairShip(): void  +pilotShip(): void  *+endDay(): void*  +getName(): String |