A 2-D Video Game

Purpose: To provide user with entertainment.

Required to run: Any operating system with Java Virtual Machine installed. Keyboard, Mouse, and/or Game Controller for input

System Requirements:

**Menu Screen:**  
User clicks on Game Run Icon

System opens the main display window

System will display a ‘start’ option

System will display a ‘close’ option

System will display an ‘options’ option

User selects the start option

System begins Game State\*

User selects options menu

**Options Menu:**

System gives user list of options:

Sound

Controls

Graphics

User selects Sound option

System gives list of options

Toggle sound on/off

User clicks on/off button

Sound turns on or off

Sound volume

User slides a volume bar

System increases and decreases volume

User selects Controls option

System gives user an interface to adjust game controls

User clicks on key to change

System gives user option to press desired key

User types desired key

System maps the new key

\*repeats for all input types

User selects Graphics option

System gives user options to adjust graphics

User clicks framerate button

System gives user option to type desired frame rate

User types desired frame rate

System updates graphics as new frame rate

User selects the close option

System exits program

**Game State:**  
 System will spawn player with three lives

System will show gas meter at full

System populates aliens above user

System populates the map randomly with gasoline cans

System will begin to fire randomly at user at slow pace

User will press the left arrow key

System will move player left

User will press the rightarrow key

System will move player right

User will press the up key

System will scroll objects down the screen at a faster rate

System will update where the current user is regarding their last movement

System creates obstacles

System creates power-ups

User hits slow down power up

System slows down time by 10% for 5 seconds

User hits damage increase power up

System increases gun damage by 25%

User hits increase armor power up

System increases player armor by 20%

User hits double points power up  
System doubles all acquired points for 30 seconds

System will decrement the gasoline by 10% every 15 seconds.

User will press space bar

System will fire projectile towards enemy

System will update score by 10 points

User will survive for a predetermined length

System will provide boss battle after every 3 levels

System will spawn boss

System will spawn health bar for boss

User hits boss

System lowers health of boss for every hit

User kills boss

System will reward with extra points

System will advance to level-up screen

System will update to next level and increase the frequency of alien bullets

Increase the frequency of alien bullets by 5% each level

User runs out of lives

User runs out of gasoline

System will proceed to Stats Screen

**Level Up Screen:**  
 System will advance to level-up screen

User selects increase armor

System will increase armor by 5%

User selects increase weapon damage

System will increase damage by 5%

**Stats Screen:**

System will take user to stats screen

System will display total of enemies hit

System will display the total number of enemies killed

System will display the total of shots fired

System will display accuracy (enemies hit / shots fired)

User will click next to proceed

System returns user to high score window

System will request for name if new score is greater than the top 5 scores

User will enter name

System will update high score with name

User will click return to main menu  
 System will populate main menu