

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 right arrow 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