

LCOM Ninja

Project description

A game in the style of the popular mobile game Fruit Ninja. In classic mode, a series of objects is launched from the bottom of the screen and the player has to slice them using the mouse to gain points. When two objects collide with each other they become a bigger object worth more points. Extra points may be gained by slicing special objects or slicing them in rapid succession (combos). Periodically, the game enters a frenzy mode, where the number of objects launches per second increases. Some objects (bombs) are not meant to be sliced and cause the player to lose lives. The game ends when all lives are lost. Additional modes may include multiplayer modes where players play in "versus" - the winner being the one with the highest score by the time the other dies - or a mode where one player is the "slicer" and the other one is in charge of launching objects by controlling a "canon" with the keyboard.

Devices used

Device	Functionality
Timer/ Counter	Animations, combo detection, timing special modes (frenzy, slow, etc)
Keyboard	2nd player uses keyboard to shoot new objects to 1st player's game, exiting game
Mouse	Slice objects, select menu options
Video card	Game graphics
RTC	Save highscores, generate random seeds
Serial Port	Communication between virtual machines for multiplayer mode

Modules

Dispatcher

Deal with events from timer, mouse and keyboard adequately.

Graphics module

Draw menus and animate the objects for gameplay.

Menu module

Show game options and switch from single player to multiplayer in menus.

Program logic

Implement game-play according to project description.

Serial port protocol

Sending positions to launch objects from in multiplayer mode. Either by sending the random seed in "versus" mode or launch positions from the 2nd player. Periodically share if the game is over across both players.

Timers module

Enable time-related logic - detecting combos, enabling animations.

Input module

Get inputs by subscribing keyboard and mouse interruptions and handling them appropriately. Mouse gesture detection for slicing. Keyboard control of the cannon for multiplayer mode.

RTC module

Generate random seeds and keep track of when highscores were achieved.

Development plan

- 1st week - develop graphics and basic animation of objects.
- 2nd week - develop object splitting upon slicing and basic game logic (scoring).
- 3rd week - improve slicing gestures and start developing multiplayer mode.

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