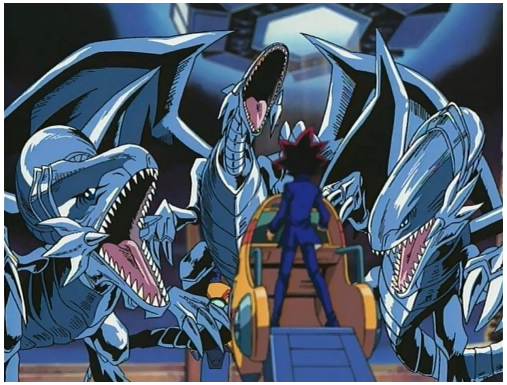
遊戯王 Yu-Gi-Oh!™



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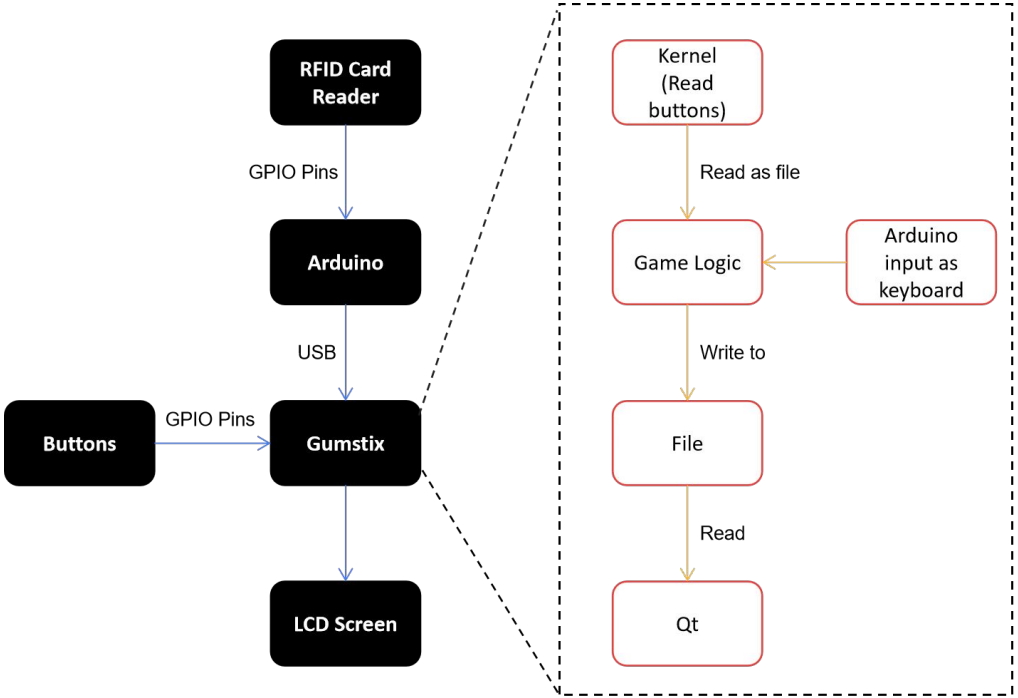
Design Flow


RFID Card Reader
GPIO Pins
Arduino
USB
Buttons
GPIO Pins
Gumstix
LCD Screen
Kernel (Read buttons)
Read as file
Game Logic
Arduino input as keyboard
Write to
File
Read
Qt

Game Logic module

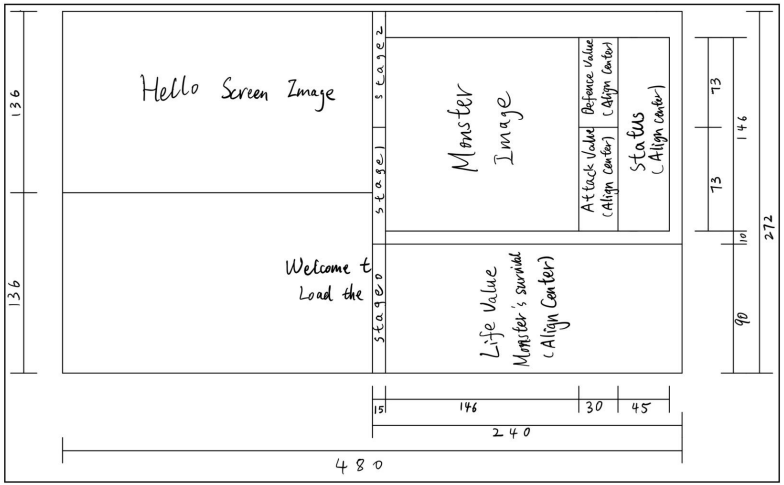
- Read ‘data.txt’ to get the card information and store in struct array.
- Write to ‘game.dat’ to tell Qt what to print.
- Read two kernel modules: buttons and keyboard to get the card ID and button operations.
- Search the card ID through struct array to get the card number. Use card number instead of card ID when doing calculations
- Perform attack and defend based on game rules, calculate life points and decide winner.
- Use ‘pause()’ function when need to wait for user input.

Kernel module (button)

- Set up interrupt functions for each button.
- When button is pressed, enter the interrupt function and set variable ‘int button’ to the number of pressed button. Then send wake up signal to wake up the game logic.
- Send ‘int button’ to game logic via the ‘read function’ of the kernel.
- Reset the value of ‘button’ after sent to game logic.

Qt module

- Used Qt to update the LCD screen.
- Read the game.dat temporary file to communicate with the Game Logic module.
- Used Qpainter to paint text, images and rectangles.
- Used Qpen to change the color or pen width to draw different elements.



Demo