The Text Editor

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Brief Description

- A Text Editor
  - UART
  - PS2 Keyboard
  - VGA

- Goal
  - Mimic Typing Experience of a Simplified Word Processor
UART

- Universal Asynchronous Receiver/Transmitter
  - A type of serial communication
  - Consists of a Receiving Block and Transmitting Block
    - *Only a Receiving Block Was Used*

- UART Uses:
  - Change the Background Color
  - Change Text Color
UART

- Q = Black Background and Gold Text
- W = Black Background and Green Text
- E = Red Background and Green Text
- R = Blue Background and Red Text
- T = Yellow Background and Black Text
- Y = Magenta Background and White Text
- U = Green Background and Black Text
PS2 Keyboard

- Similar to UART (Serial Communication)
  - Synchronous
  - Data is transferred and keyboard is powered via USB port

- Input for text

- Sends multiple codes
  - Make
  - Break
VGA/Output

- Grid System
- Tile Mapping
- Assigned 1 Bit Per Color
  - Red
  - Green
  - Blue

- Displays Background Color and Text
FSM 1
FSM 2
Top Schematic
UART Schematic
VGA/PS2 Schematic