M1 Presentation

Test

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Project goal

- ”surveillance” camera
- people counter

System Components

The list of components we have chosen to build this system:

- Raspberry Pi 4: Serves as the central processing unit (CPU).
- Pi Camera Module: Captures visual data.
- Motion-Sensors: Detect any movement within the surveillance area.
- SD Card: For the storage of software programs and the Raspberry Pi operating system.
- Power Supply: To power the whole system.
- LEDs: As indicators.
- Micro USB to USB-A Adapter: To connect peripherals.

Hardware Architectrure

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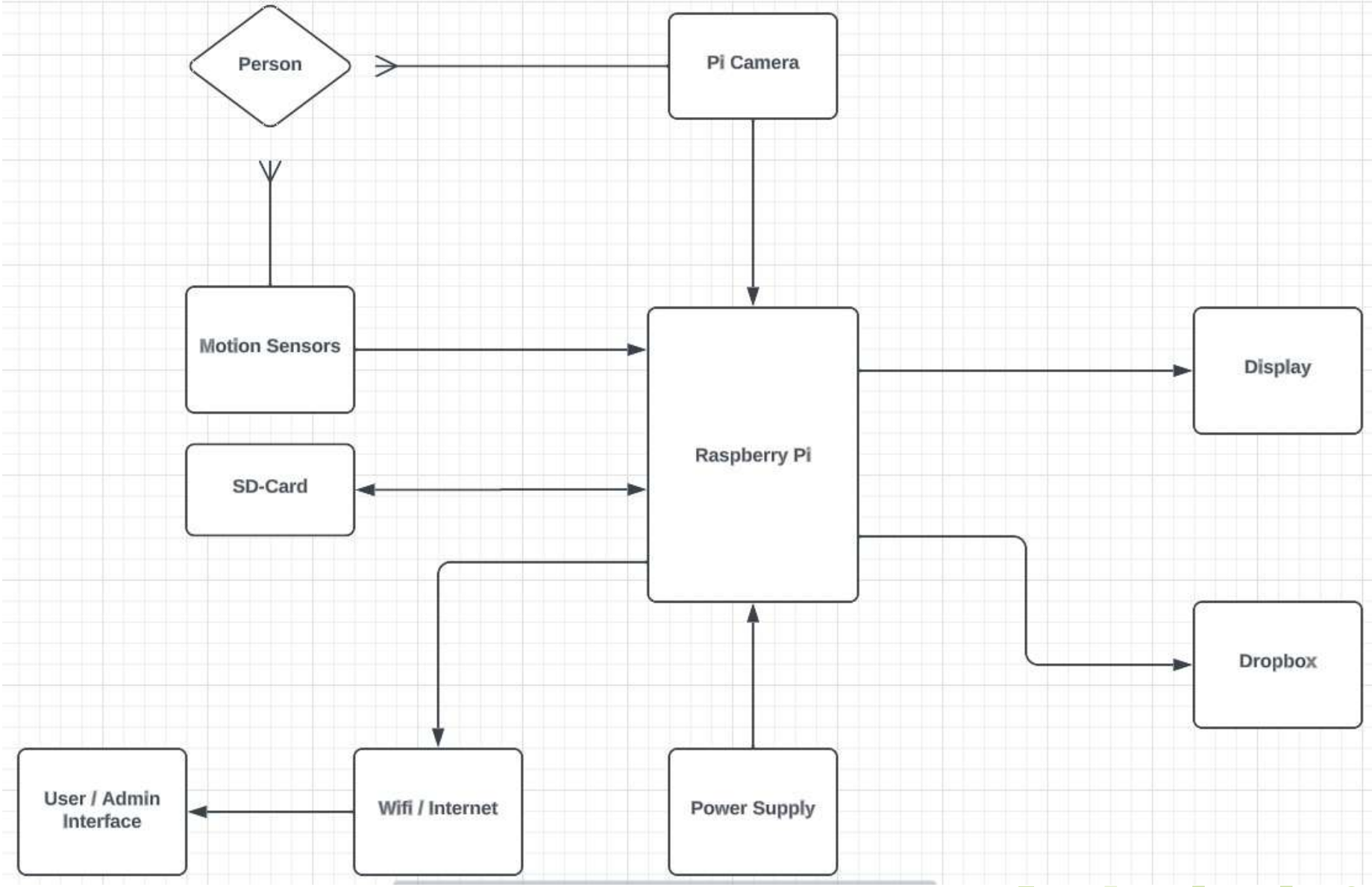
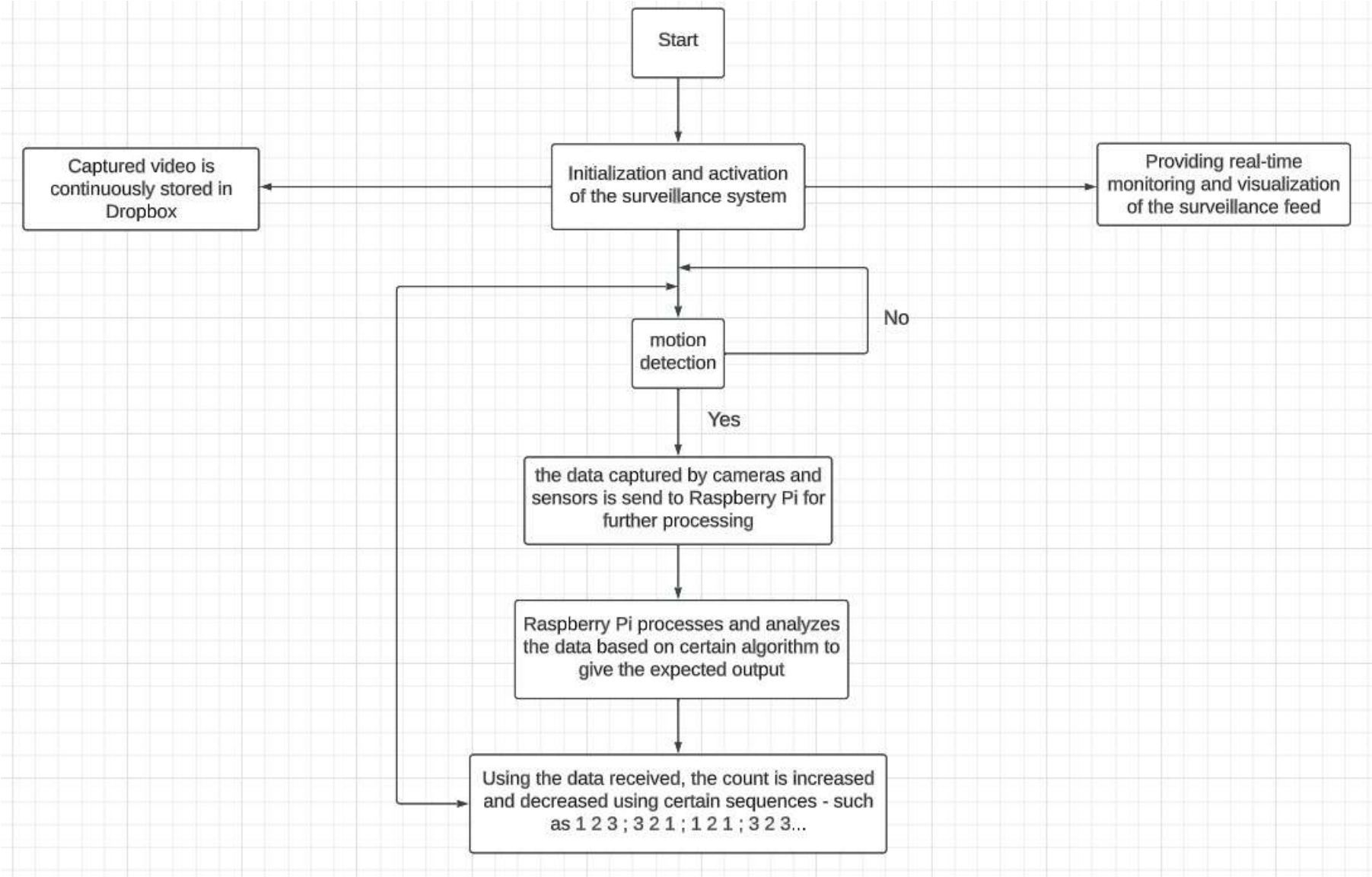


Software Architecture



Use Cases

- Start-Up Routine
  - Raspberry boots with Linux
  - initialize Hardware
  - connect to internet
- Track Movement
  - first motion sensor detect movement
  - other motion sensor detect movement
  - software decide the movement direction
- Count People
  - Moving in/out
  - Displaycounter goes up/down

Use Cases

- Monitor Area
  - camera scans area
  - camera software recognizes people
  - camera software counts people
- Store Security Data
  - camera scans area
  - camera detects people
  - camera software saves video material

Working Progress

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- split hardware
- get datasheets
- plan software for hardware

Thanks for your Attention