DR. PILL

Automatic Pill Dispenser

TEAM & ROLES

Jonathan Cerniaz

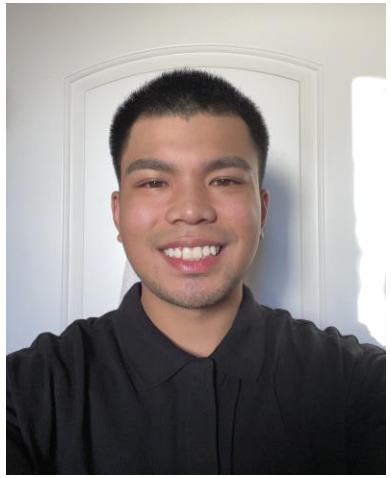
- Team Management
- Power Supply
- Touchscreen display
- Circuitry

Jehmel Espiritu

- Launchpad Implementation
- Motor Movement
- Motor Hardware Set Up

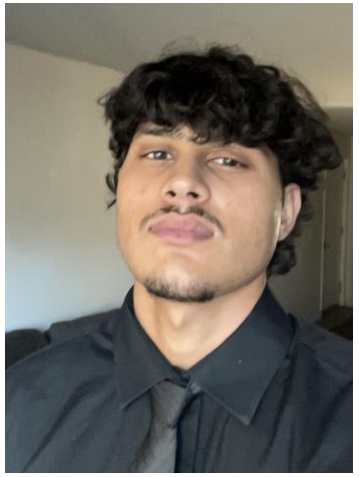
Jeremy Espiritu

- Object recognition
- Pill Sizing and Weight
- Help with Motor Implementation



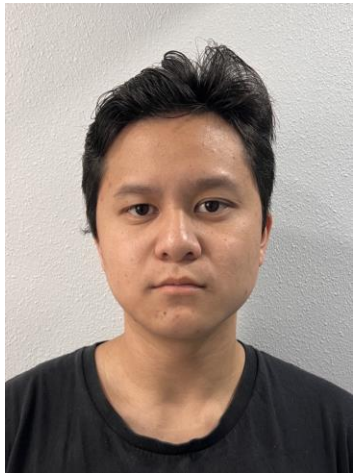
Joseph Guzman

- GitHub Manager
- Raspberry Pi Implementation
- 3D Design and Build
- Space management



Afzal Hakim

- User Interface
- Security Device Integration
- Log Management and Data Tracking



Lee Roger Ordinario

- Pill Storage Design
- Pill Dispense Concept
- Dispenser Sanitation

EXECUTIVE SUMMARY

Dr. Pill is an automatic pill dispenser that simplifies medication management. Our device aims to facilitate the process by freeing up more time for doctors and allowing patients to take their medication accurately by eliminating the common issue of medication errors and missed dosages. Designated for pharmacies, nursing homes, personal households.

FEATURES

Automated Dispensing

Say goodbye to missed doses and medication errors. Dr. Pill automatically dispenses your prescribed medications at the precise times, every time.

User-Friendly Interface

Designed for users of all ages and technical abilities, Dr. Pill's intuitive interface makes medication management a breeze.

Biometric Authentication

To ensure that medications are dispensed to the correct person, Dr. Pill offers facial recognition and fingerprint scanning capabilities.

Dedicated Pill Storage and Delivery

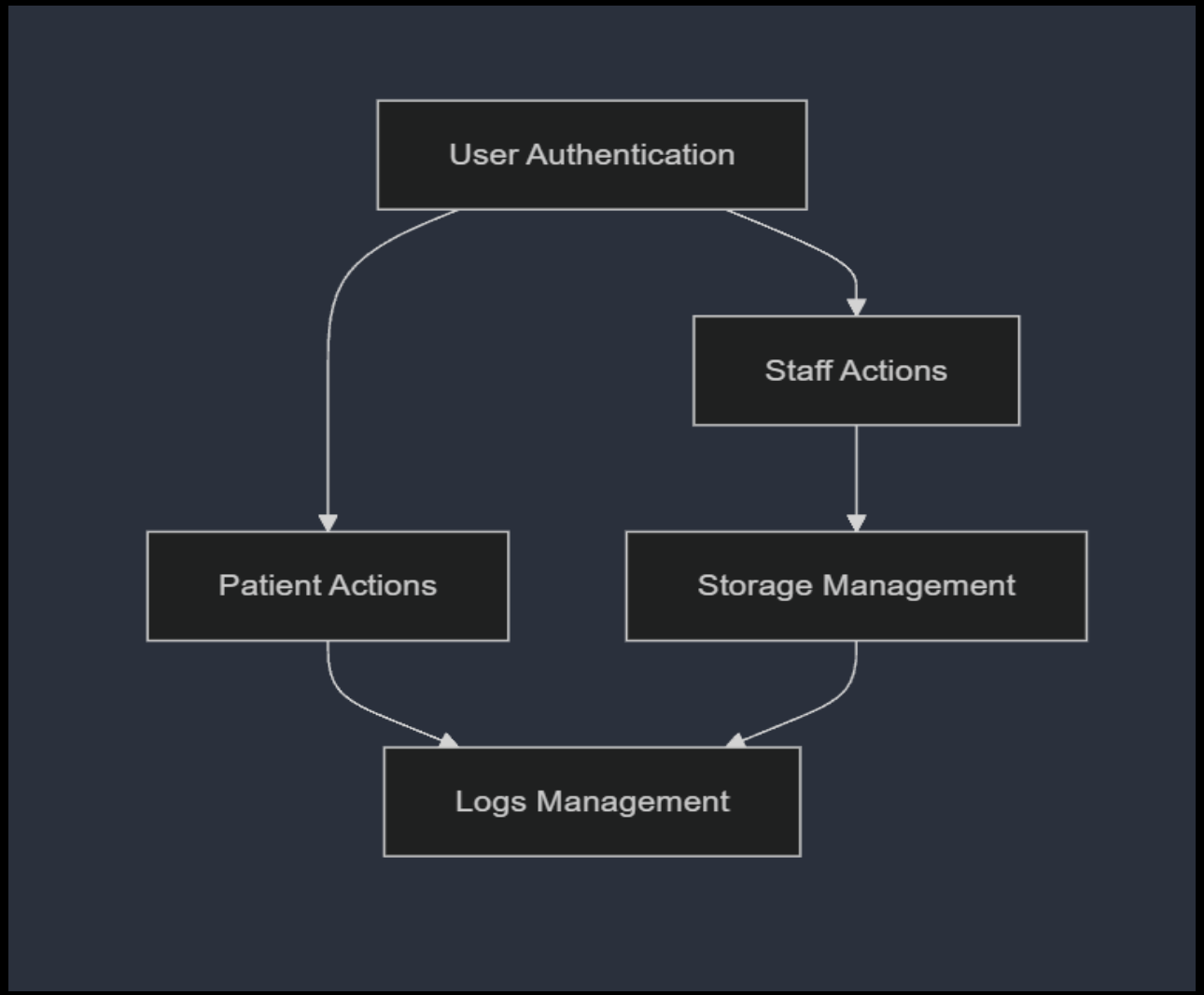
Dr. Pill features separate compartments for each type of medication, ensuring there is no cross-contamination between different pills.

Tracking Logs

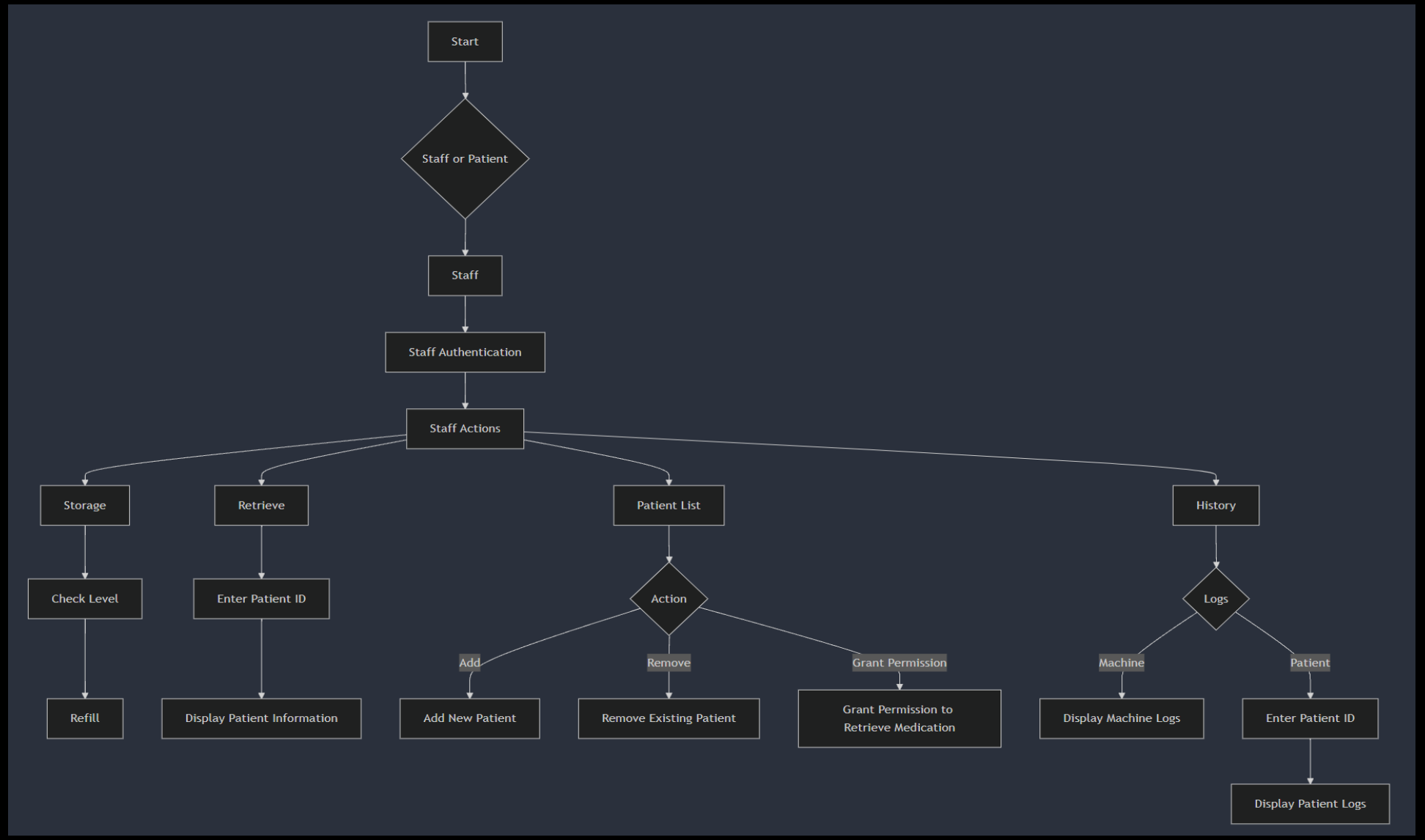
Dr. Pill keeps detailed tracking logs of when medications are dispensed and consumed.

Log File

BLOCK DIAGRAM (SIMPLIFIED)



STAFF DIAGRAM

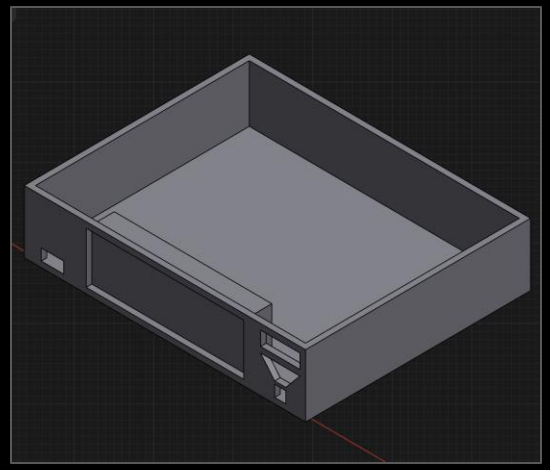


PATIENT DIAGRAM

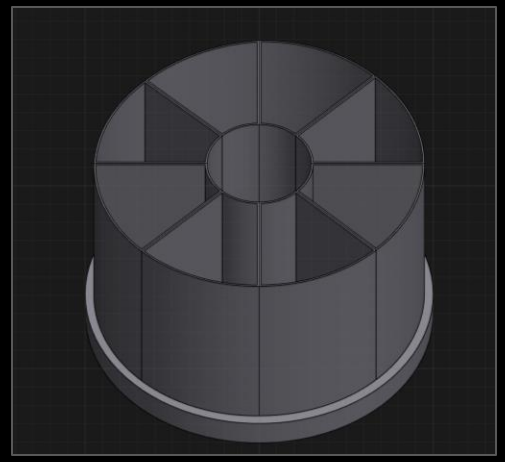
DESIGN

Dr. Pill Front Interface

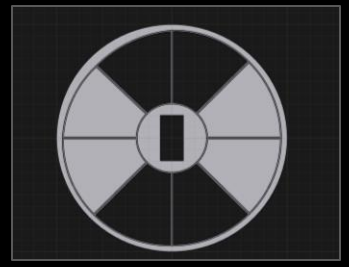
Top View



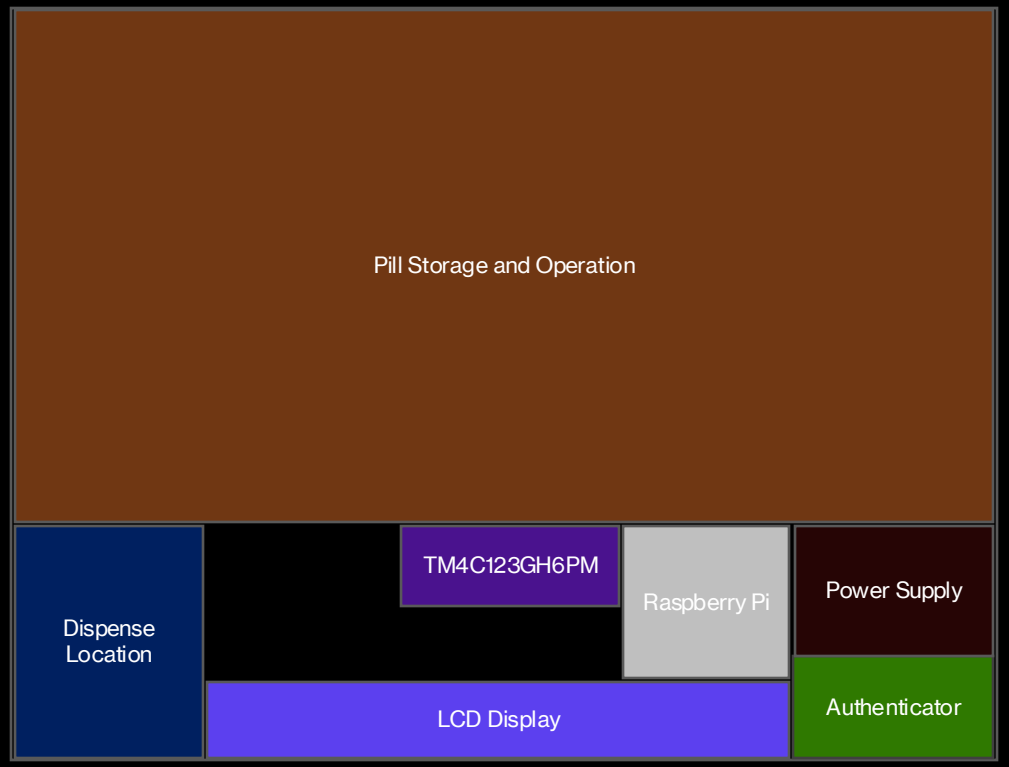
Dispense Mechanism



Top View



Blueprint Layout



PROGRESS

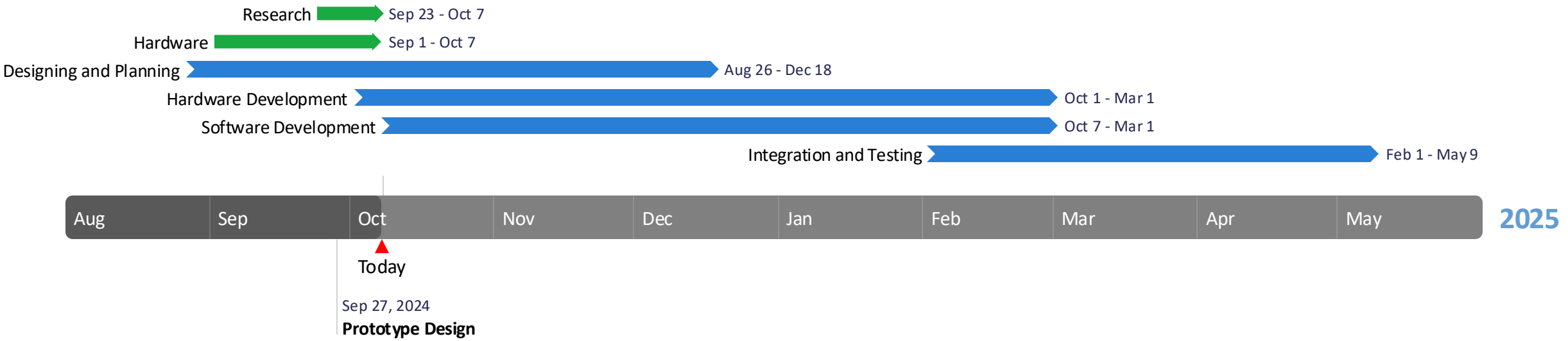
What was planned but not accomplished?

- Object recognition for identification of pills as well as the placement for the device
- Circuit management and power consumption
- Software development for our dispensing mechanism
- Develop a user interface for patients and authorized personnel
- Create a data tracker for pill history

What was planned and accomplished?

- Researched 'generally recognized as safe' (GRAS) materials for pill storage and enclosure
- Recognized safety issue for storing medication, considering crushed medication, cross-contamination, potency, and sizing
- Conducted research on the average daily medication intake for older adults and the elderly to tailor the product to their needs
- Explored motor options, that will be utilized for our dispensing mechanism
- Constructed a 3D print of our prototype design

TIMELINE


Research
Sep 23 - Oct 7
Hardware
Sep 1 - Oct 7
Designing and Planning
Aug 26 - Dec 18
Hardware Development
Oct 1 - Mar 1
Software Development
Oct 7 - Mar 1
Integration and Testing
Feb 1 - May 9
Aug
Sep
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
2025
Today
Sep 27, 2024
Prototype Design


Dr. Pill

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YouTube: Electronic Tablet Counter: RX 4 Capsule Counter Machine by RX Count, www.youtube.com/watch?v=mO_NhPjw8f0.

THANK YOU