

# IoT Communication Network

## A computer network of tiny computers

### Mid Presentation

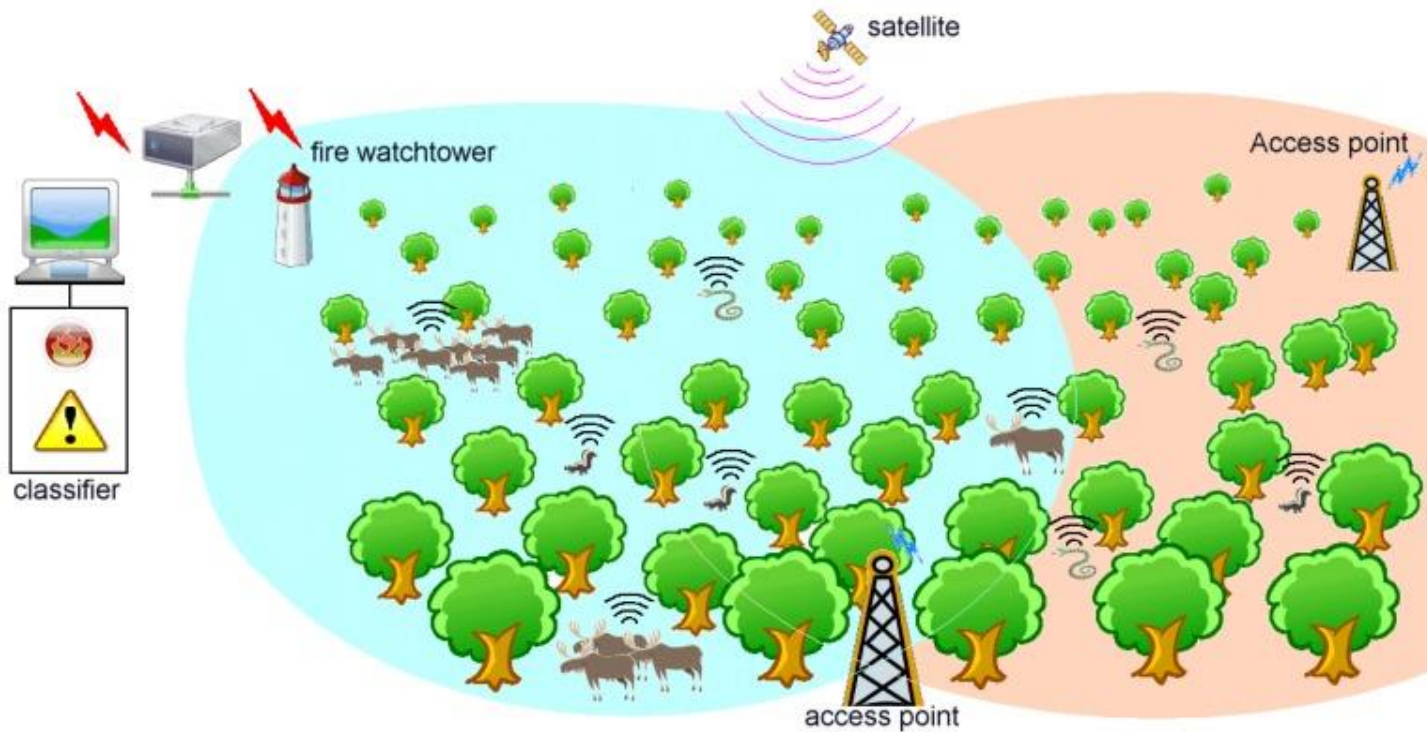
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Supervisor :

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# Motivation

Forest Fire detection systems face many obstacles:

- Networking
- Expensive Systems
- Covering large areas

# Project Goals

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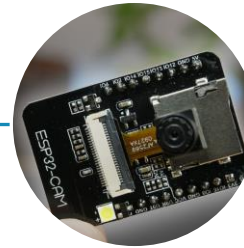
- Establish communication between tiny computers without access point
- Setting up a server that communicates with the tiny computers Network

## Minimal requirements :

- Cheap
- Efficiency

# Potential Solution

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esp32 cam

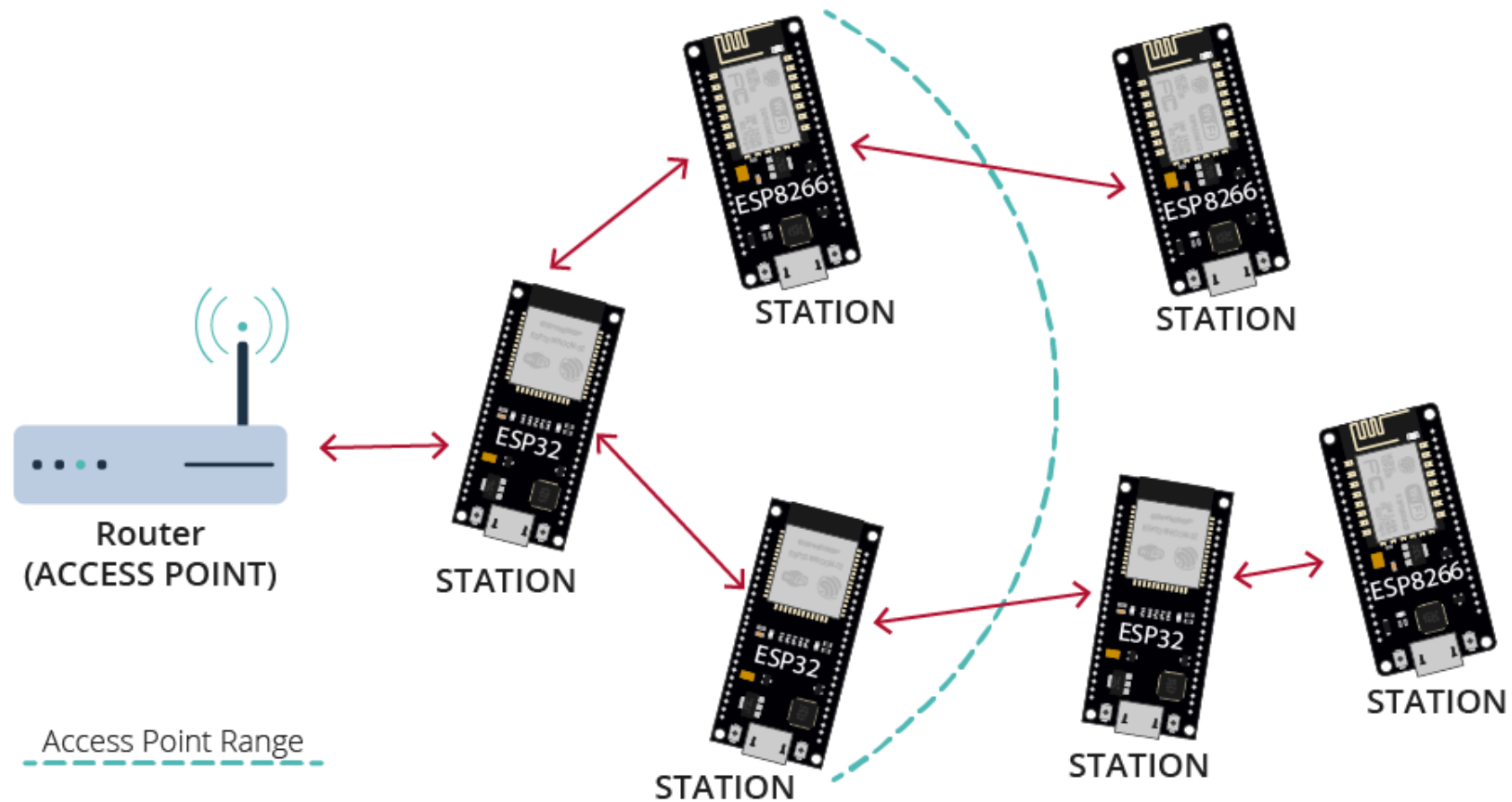


painlessMesh Library

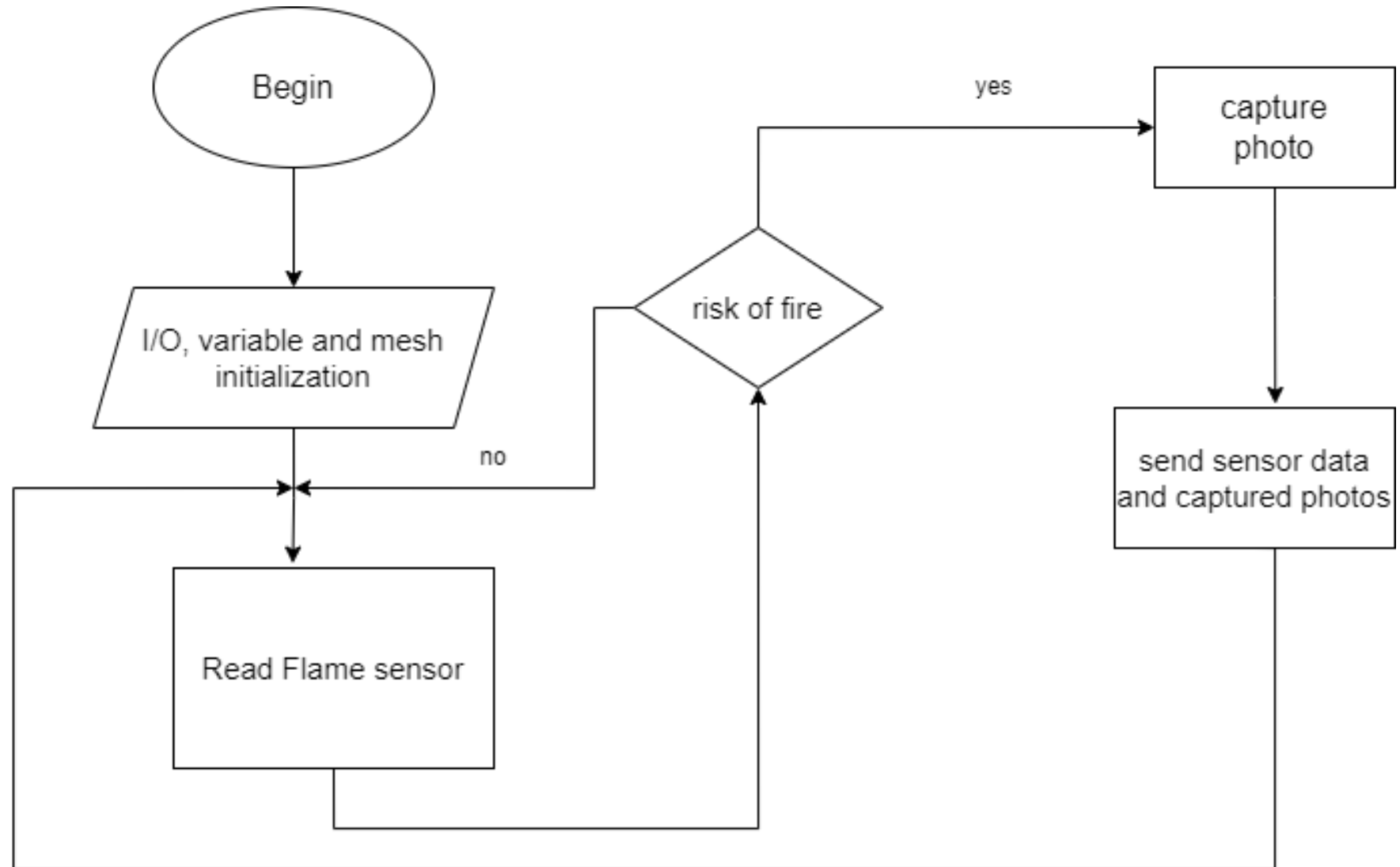


Json format

# Solution Diagram



## SW FLOW CHART



# Development Environments

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- ✓ Software:
  - Arduino IDE



# Required Models

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Ready to  
use:

Arduino libraries  
painlessMesh  
TaskScheduler  
ArduinoJson  
AsyncTCP

To be  
developed:

restAPI Server







# Processor esp32 cam

- Esp32 cam is dual core.
- It has Wi-Fi, camera and Bluetooth built-in.
- It runs 32 bit program.
- The esp32 cam can be programmed using many different development environments. Code can be written in c or in MicroPython.

Number of cores	2 (dual core)
Wi-Fi	2.4 GHz up to 150 Mbits/s
Bluetooth	BLE (Bluetooth Low Energy) and legacy Bluetooth
Architecture	32 bits
Clock frequency	Up to 240 MHz
RAM	512 KB

# Project Management



SuraySweed / NetworkinglotProject Private Unwatch

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SuraySweed add async tcp library	088fa39 27 days ago	5 commits
AsyncTCP	add async tcp library	27 days ago
CameraWebServer	first commit by ali	27 days ago
TwoWayCommunication	first commit by ali	27 days ago
meshNetwork	first commit by ali	27 days ago
README.md	Initial commit	27 days ago

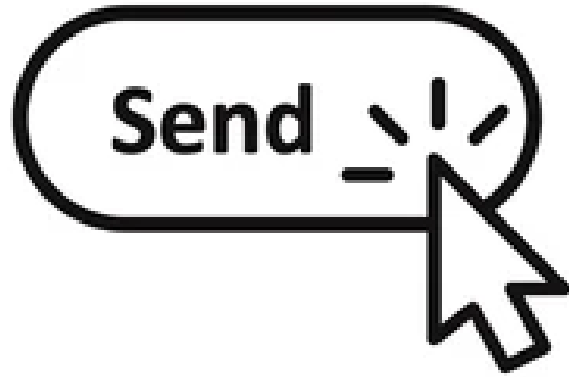
README.md

## NetworkinglotProject

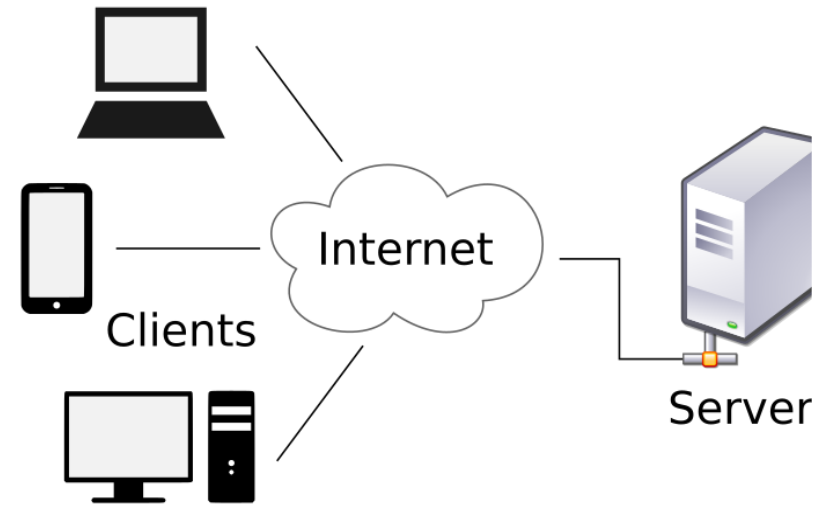
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Final Project- Technion





Send images  
between esp's



restAPI Server