Scenario Two: Edge Device

A simple, cheap, self-contained, wireless, outdoor, portable edge device should be positioned into its intended location. A person should be able to easily register that edge device with a local edge node without typing in any information. This device would then be automatically configured based on its location and purpose, onboarded, and begin collecting and sending data.

Example edge device: waterproofed ESP32 with 1-year battery and moisture sensor on a pole for planting. ESP32 should include radios for communication, including Bluetooth, Wi-Fi, LoRa, among others.

Target release	
Epic	
Document status	DRAFT
Document owner	Joe Pearson
Designer	
Developers	
QA	

Goals

- Easily register an Edge Device
- Easily modify a registered Edge Device
- Easily unregister a registered Edge Device
- Automatically on-board an Edge Device
- Deploy an Edge Device, ideally without wired power and network connections

Background and strategic fit

Assumptions

- There are at least two types of devices:
    - Sensors - emit data collected through one or more mechanisms, e.g. moisture sensor, ph sensor, camera
    - Actuators - trigger an action manually or automatically, e.g. water pump switch, solar panel, button or switch
- An external data feed may be considered a virtual device
- Devices are fixed-function and limited in their programmability. They cannot run containerized workloads, or they would instead be an Edge Node.

Requirements

#	Title	User Story	Importance	Notes
1	Jeff Lu Liquid Prep	Jeff Luplease add overview of user story for Liquid Prep here.		
2	Charlie Lindahl Panic Button	Specific edge device: a medical "panic button" that a farmer would have on his/her person which could be pressed in the event of an emergency event (tractor falling on a body, etc).		
3	Joe Pearson Cameras	Stream video from fixed-function cameras, add video pipelines/object recognition/data extraction/time lapse/frame extraction/motion detection via containers and models on systems that can run containers. Sometimes the two purposes can be combined in one device.		

User interaction and design

Questions

Below is a list of questions to be addressed as a result of this requirements document:

Question	Outcome

Not Doing