Alvin Tran, ART385, StoveSafety,

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Contents

Statement

The purpose of my project is to create a device that would alert a cook if they are too close to a stove light. It will take in data from a potentiometer and a light-dependent resistor. If the potentiometer is turned past a certain value and the LDR does not receive a certain amount of light, the Processing sketch will flash a warning message.

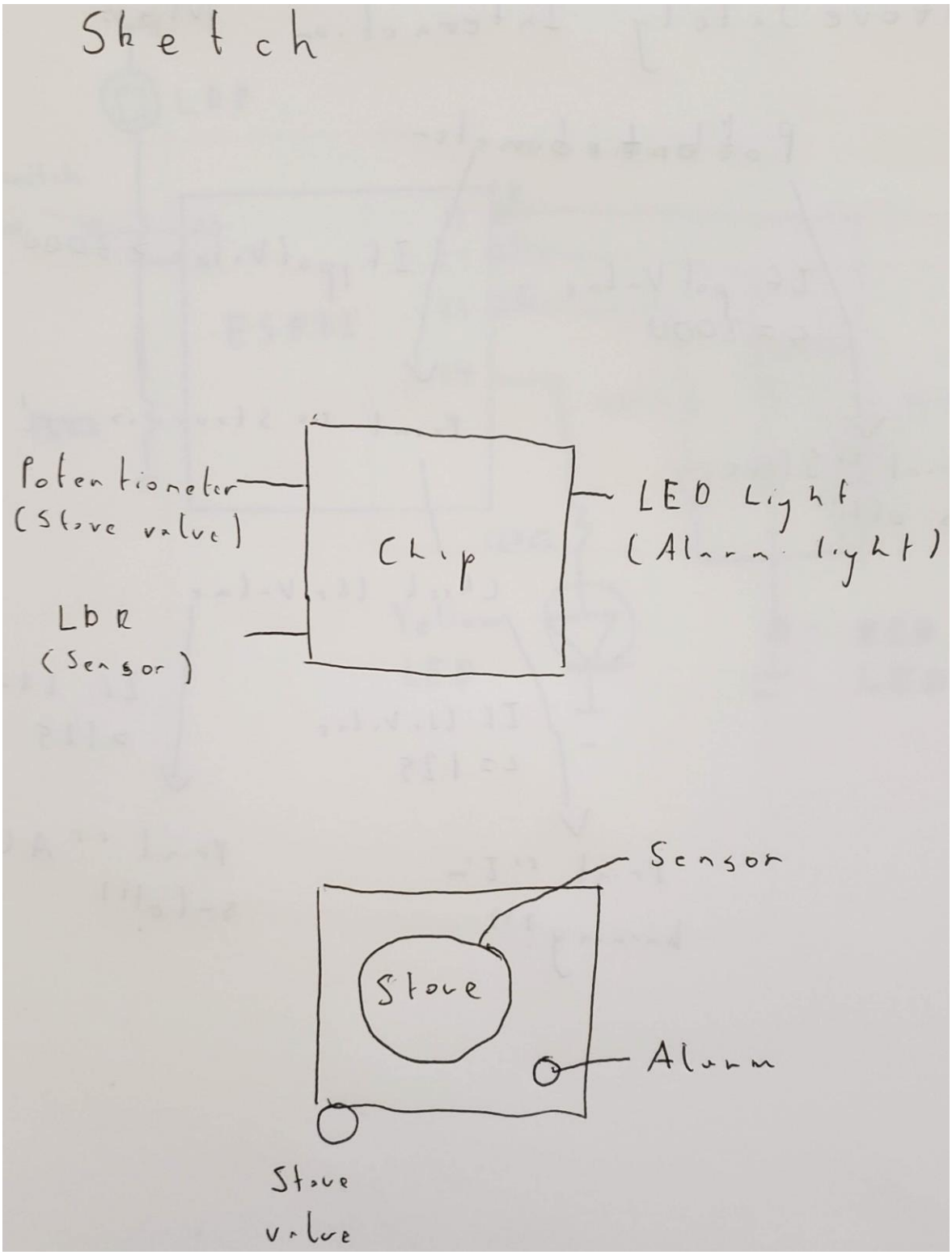
In the chance I can develop an actual protype, it will be a sensor and an alarm attached to a stove. If a cook's hand or another obstruction goes too close to an active flame, a brief alarm will sound. The alarm will stop once the obstruction has been removed.

Audience

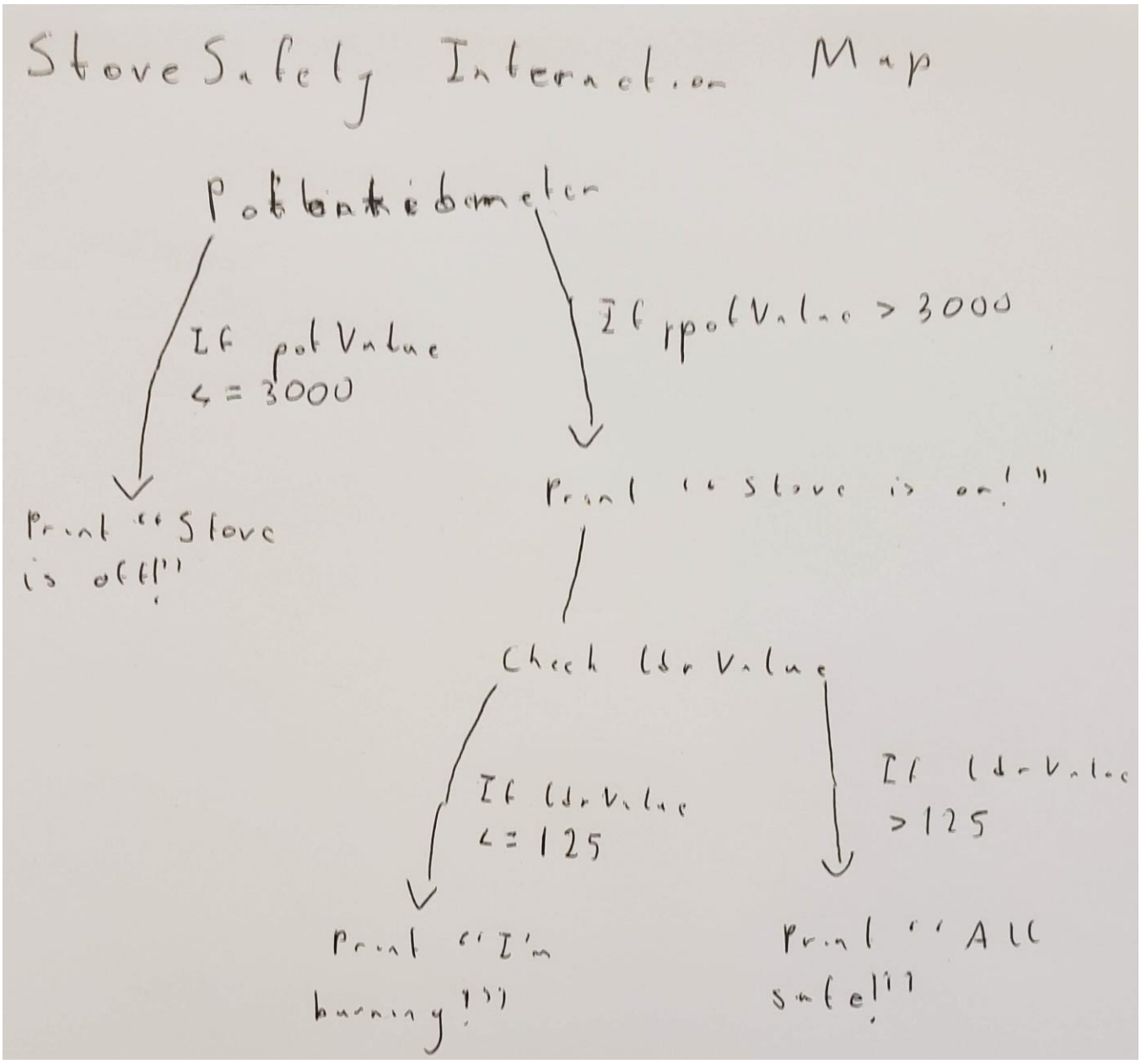
The intended audience is people who work in the kitchen. Naturally, this is a large variety of people. There will be a focus however on people who might lack the situational awareness to avoid accidentally burning themselves on a stove. Specifically, some people with disabilities or caretakers who need to double up on taking care of children might have the opportunity to use a stove. The alarm is meant to make sure they can safely use an active stove and not accidentally burn themselves or their charges.

Sketches

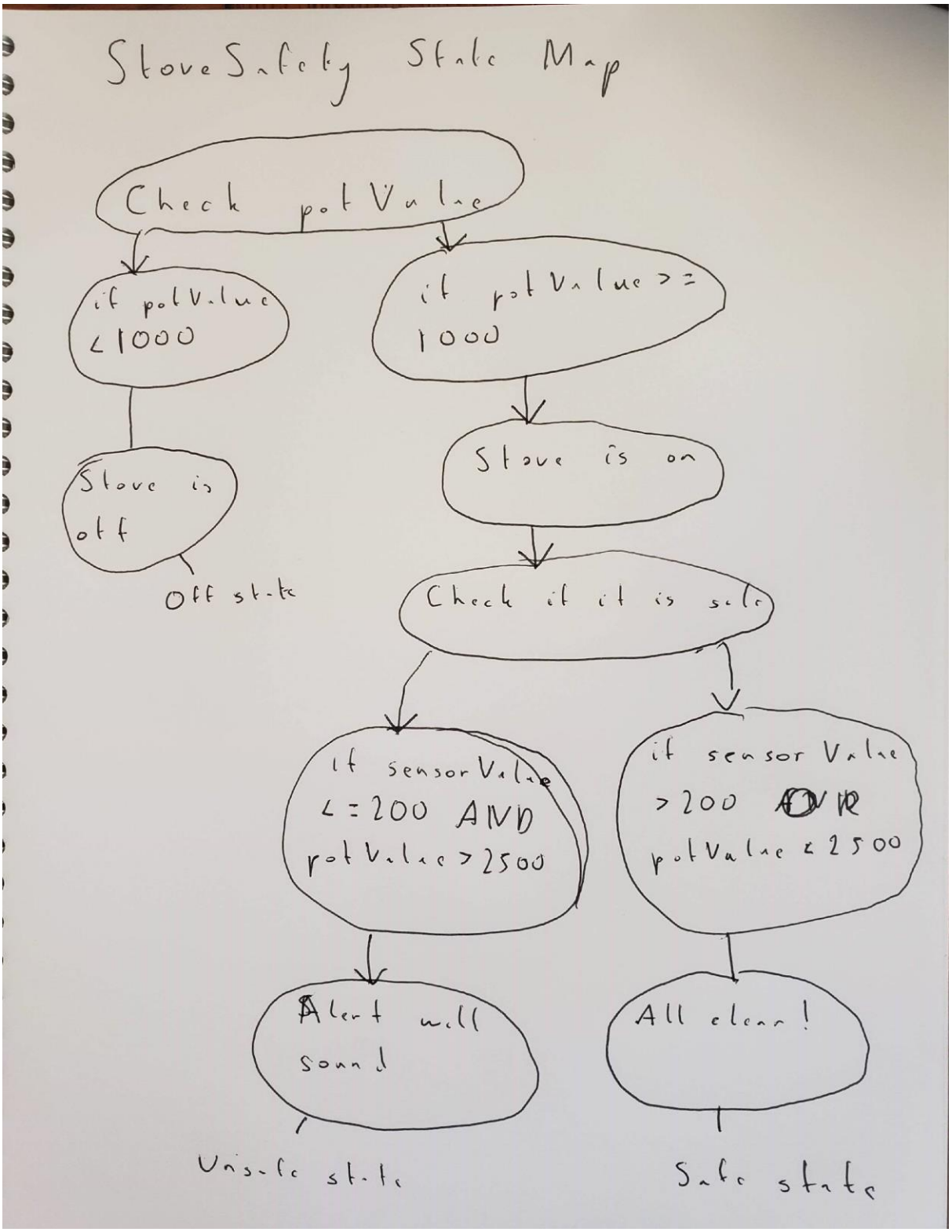
Prototype Sketch (Rough Draft)



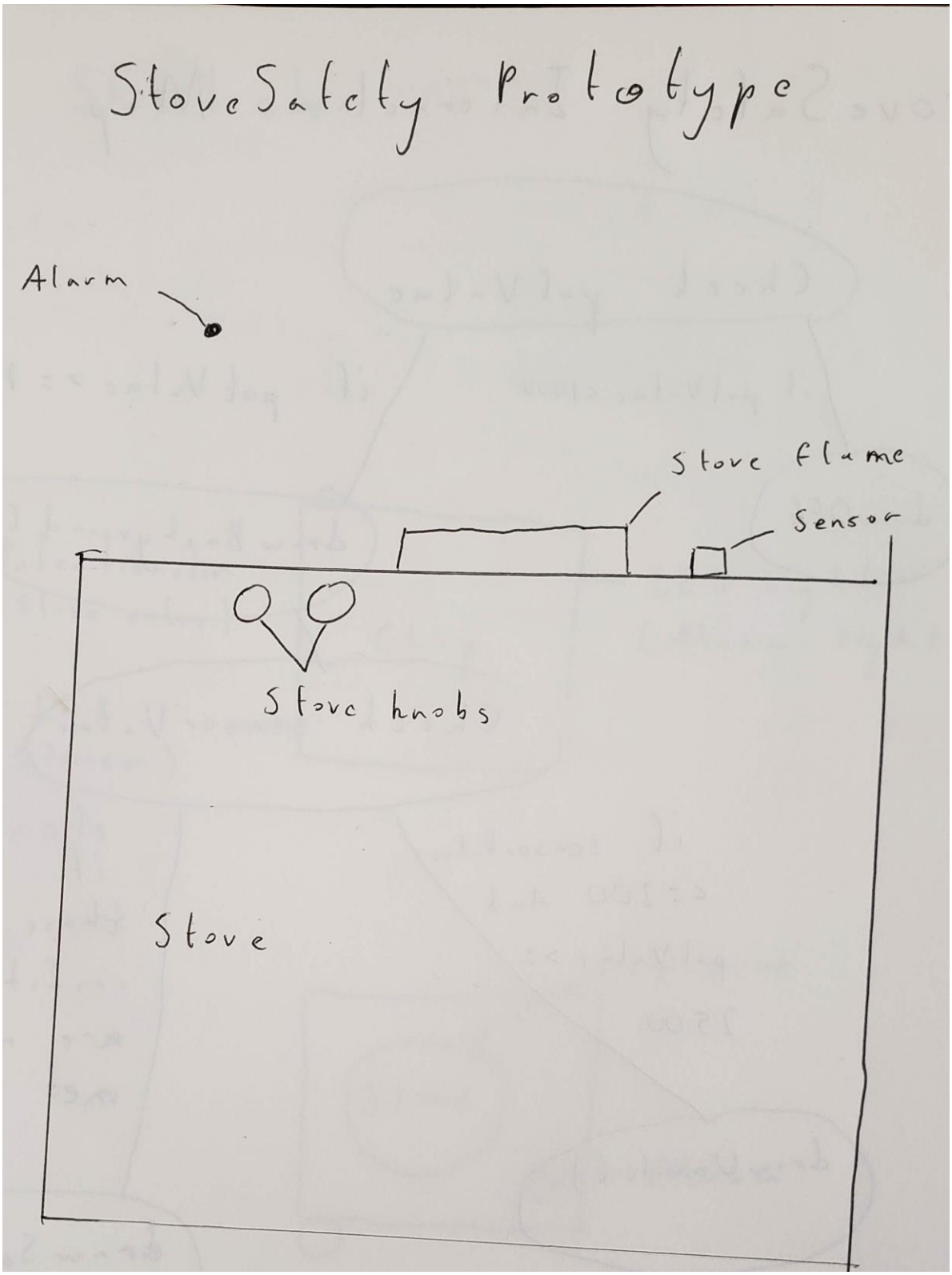
Interaction Map (Rough Draft)



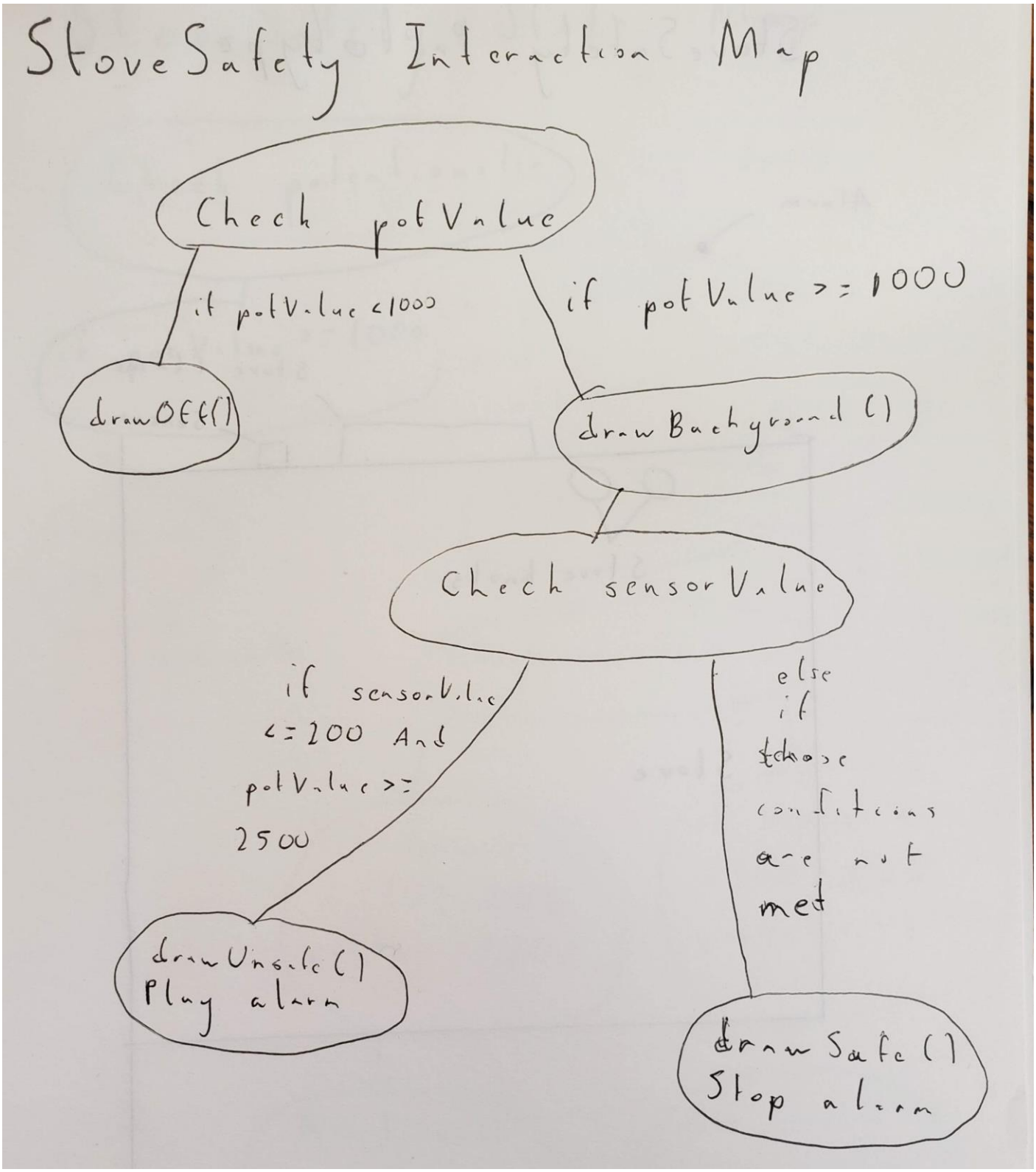
State Map (Rough Draft)



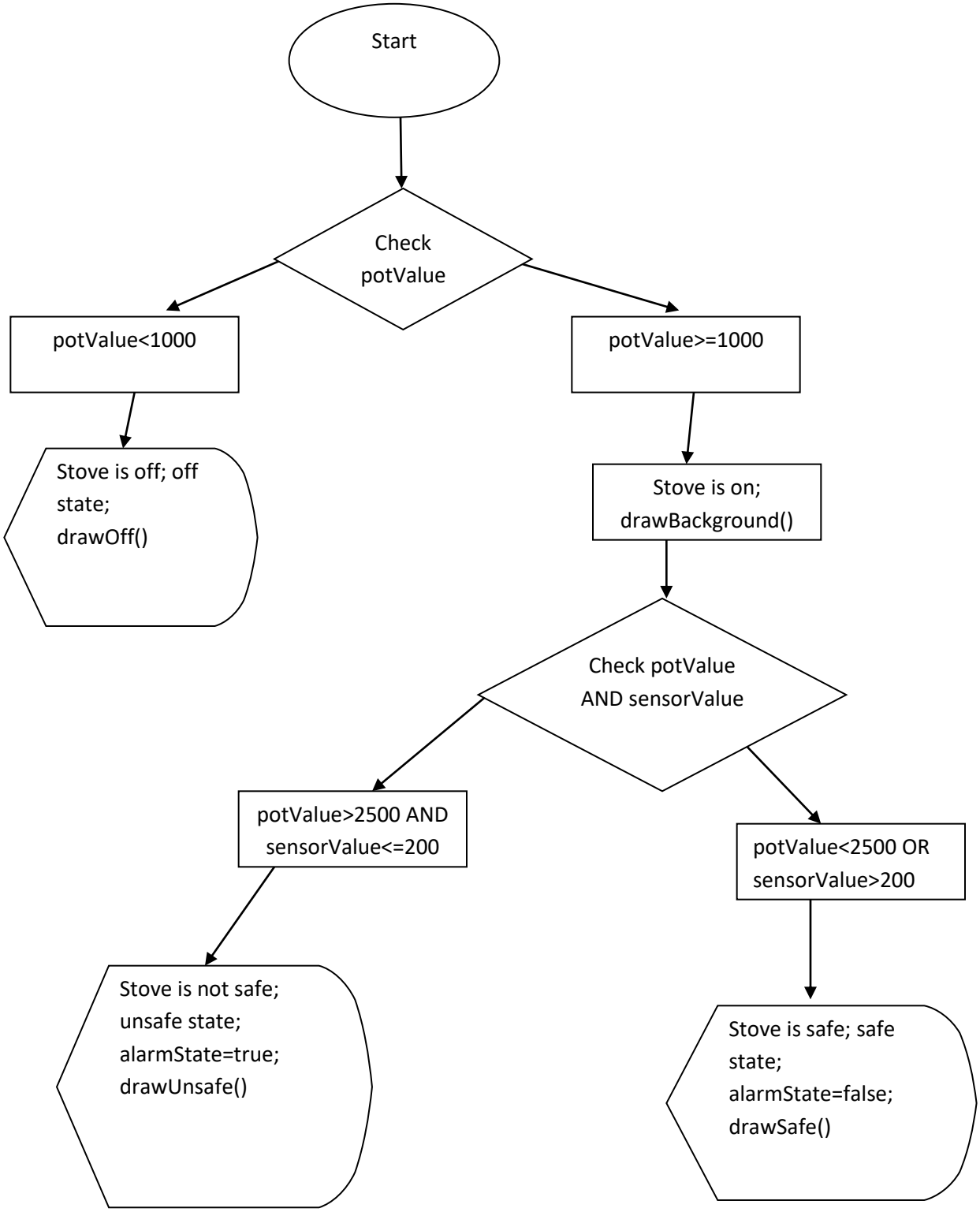
Prototype Sketch



Interaction Map



State Map


Start
Check potValue
potValue<1000
potValue>=1000
Stove is off; off state; drawOff()
Stove is on; drawBackground()
Check potValue AND sensorValue
potValue>2500 AND sensorValue<=200
potValue<2500 OR sensorValue>200
Stove is not safe; unsafe state; alarmState=true; drawUnsafe()
Stove is safe; safe state; alarmState=false; drawSafe()

Overview

My aesthetic approach relies on being easy to see and hear. A person who might be physically challenged or a caretaker who needs to juggle with taking children might lack the situational awareness to avoid burning themselves. The alarm allows them to maintain awareness, even if distracted or impaired. However, my example has an audio cue that sounds off and has a bit of a delay when stopping. Sure, it works for the purpose of an alarm, but it does make an annoying screech and has a lag in stopping once the sensor is no longer covered, which still works for the project, but is rather irritating to hear.

Discussion

Currently, while stove alarms can warn if they are left on, there are no alarms that help prevent being burned. Of course, a big flaw in the system is that the alarm might always be running due to the cook’s proximity to the sensor. It might be a possibility that the user becomes desensitized to the alarm. However, if it is used by caretakers, it could serve as a warning system if children or other charges are misusing a stove. That would be a big step in its favor.