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COMP 3700-002
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Homework 4

Conceptual Statement

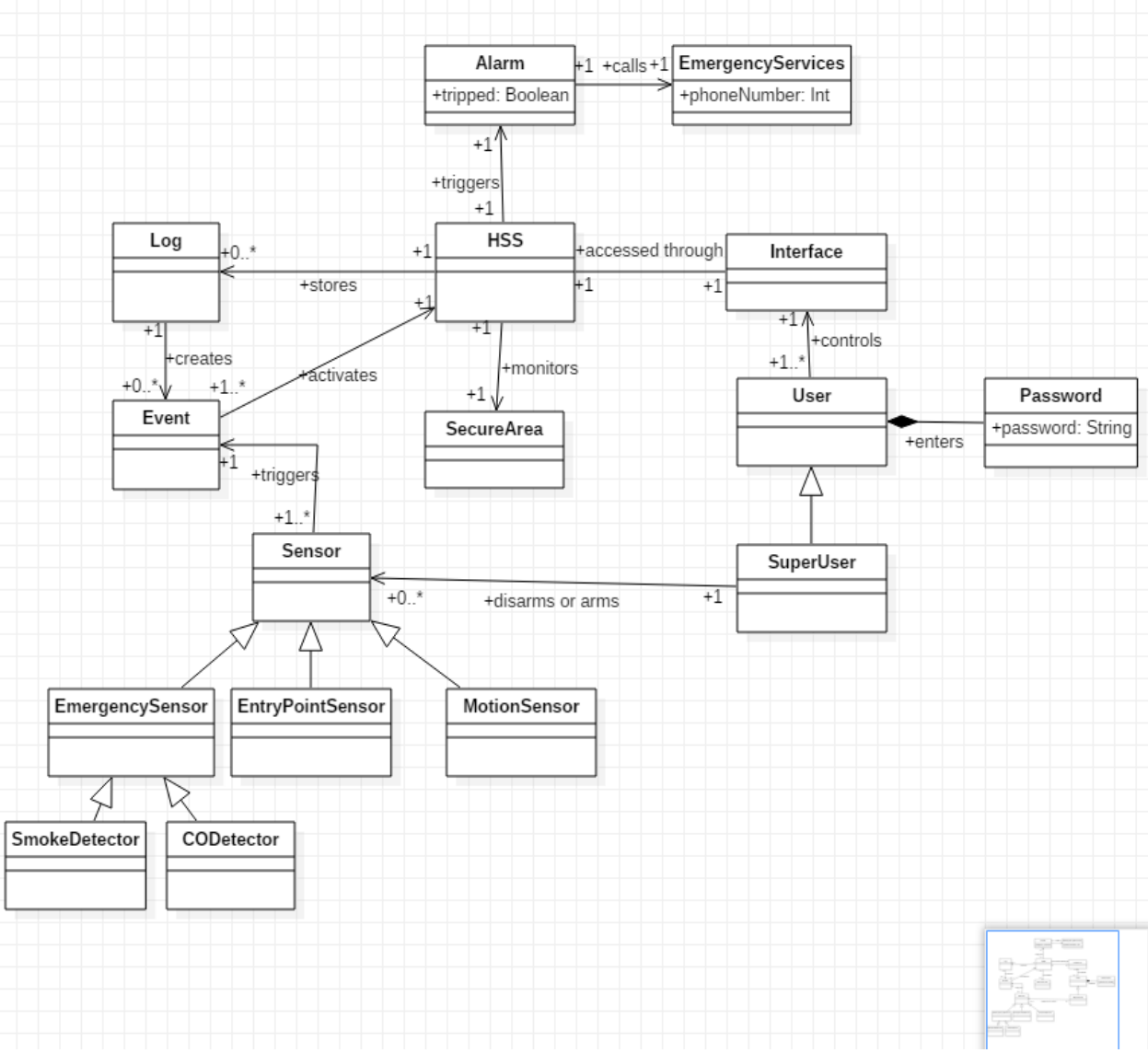
1. The Home Security System (HSS) should monitor an area designated by the customer. The area is monitored by a collection of sensors and cameras. This 'area' is normally the inside of a home, but however can include sensors for the outside of the building the unit is housed in. The physical HSS unit itself may be positioned at any location inside the building the customer desires, and the sensors and cameras may be placed anywhere inside the range radius of the HSS unit. These 'sensors' include any combination of what the customer has installed, which could be motion sensors, door and window entry triggers, or emergency detectors (for fire/Carbon Monoxide).

Installed on the HSS physical unit should be a User Interface that allows a customer to control the HSS via a Superuser. A customer creates a Superuser by inputting a security PIN when prompted while in setup. While logged in as a Superuser, a customer can set up sensors or cameras, or view the active cameras and sensors. The Superuser can also set entry point triggers on door/window sensors, as well as view system logs. The Superuser can also be accessed on a PC via a web browser connected to the system after logging in with Superuser credentials. A regular user who knows a preset code can only disarm or arm the system from the HSS unit.

The HSS should keep running logs of all events that can be accessed by the Superuser while logged in. The events kept in logs should be things such as triggered alarms, alarm set, and door/window triggered openings. Each event should have a corresponding date and time that it was logged at.

In the event of an emergency where the emergency detector goes off, the HSS should dial 911 to connect to the local paramedic services, where an EMT should be dispatched to the area the HSS called from. In the event of an armed system being triggered with no user to deactivate, the HSS should dial 911 to connect to the local police station, where a Police Officer should be dispatched to the area the HSS called from. The conceptual domain model is shown on the following page.

**Note: I could not go very in depth on the PC/Remote viewing at this point in the development, as I nor our group seem to quite understand how we can achieve that yet.


Alarm
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+calls
+1
EmergencyServices
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+1
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+1
Log
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HSS
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Interface
+stores
+1
+1
+1
+1
+1
+controls
+1..*
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+activates
+monitors
+0..*
+1..*
+1
+1
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SecureArea
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+1
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+1..*
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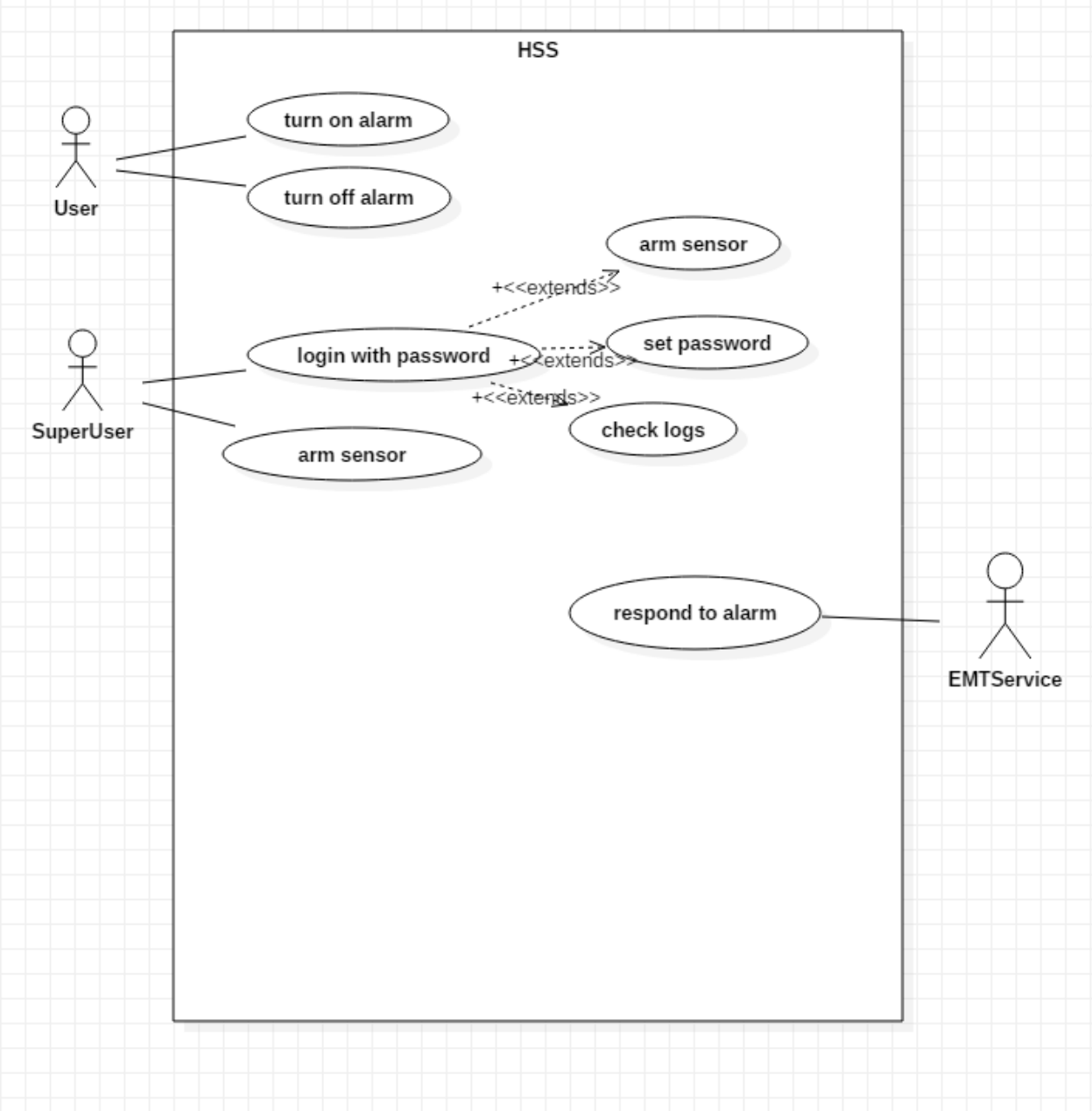
EntryPointSensor
MotionSensor
SmokeDetector
CODetector

2.



3.

Use Case: Disarm System

Summary: A user logs into HSS and disarms the system and any current alarms.

Actors: Basic User

Precondition: System Armed

Flow of Events:

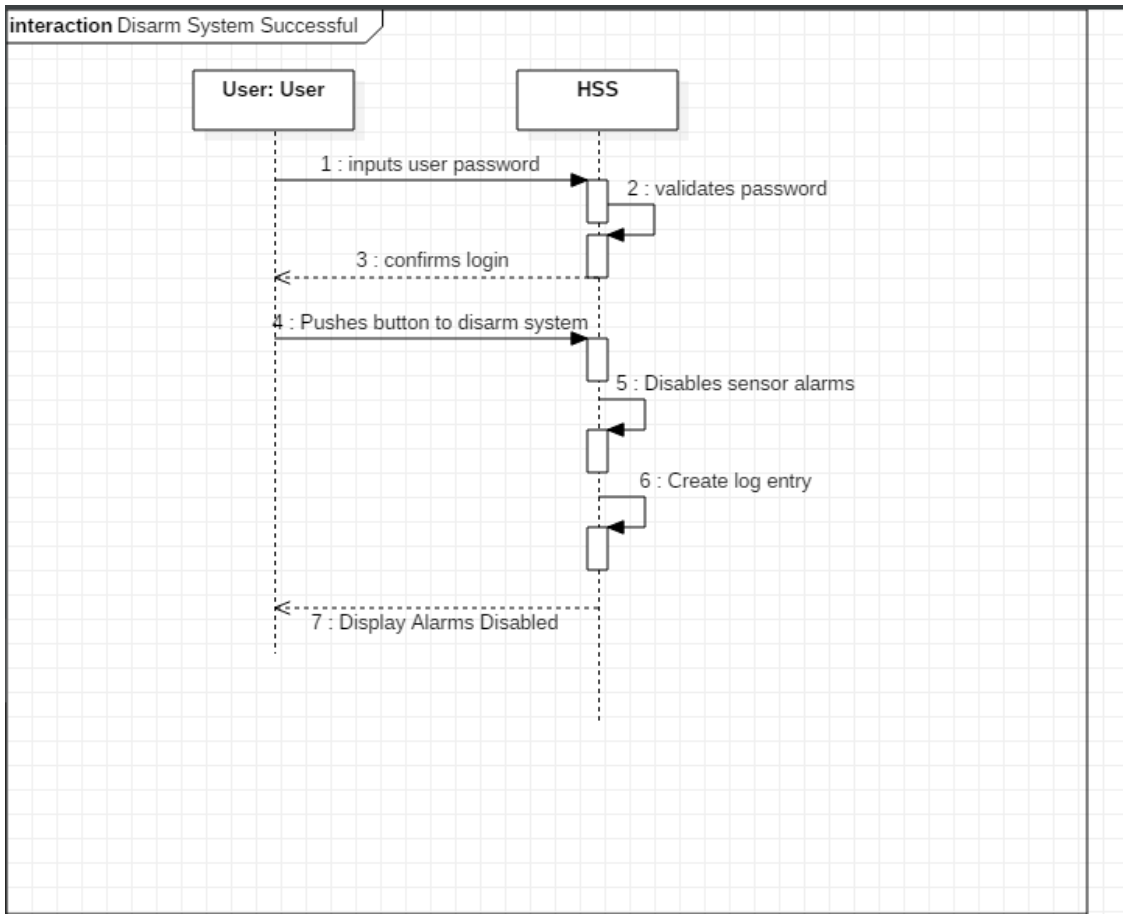
Actor Responsibilities	*System Responsibilities*
1. User inputs password.	
	2. The system validates the input password.
3. The user pushes button to disarm system.	
	4. The system disables alarm.
	5. The system updates sensors.
	6. The system displays system disarm message on the home screen.
	7. System creates log entry to indicate system has been disarmed.

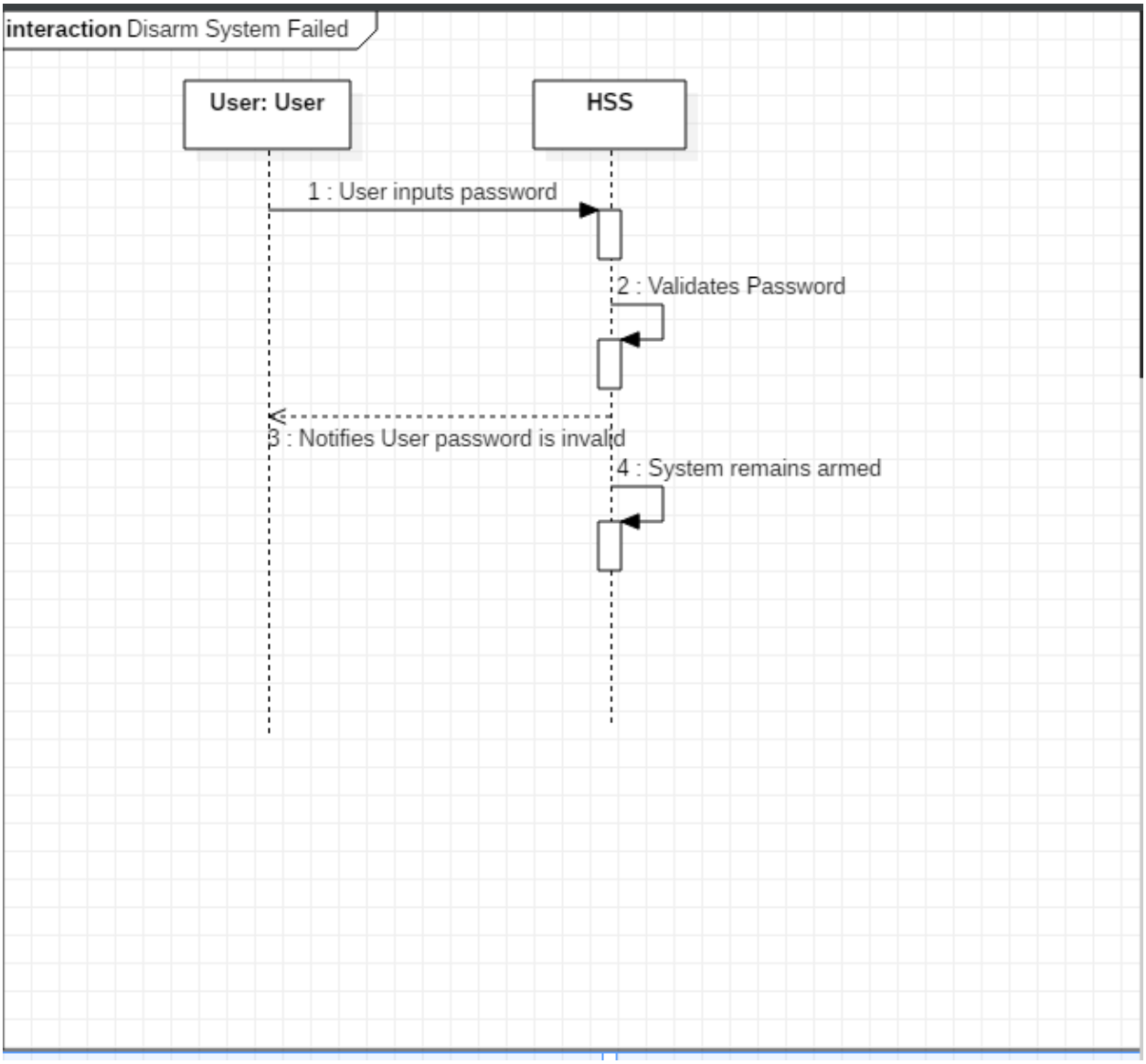
Exceptions:

- Step 2 If the password is invalid, the system will display a message alerting the user to try again.

Postcondition: The system is disarmed.

4.





**Note: For these models, StarUML would not let me create long rectangles where I could point pointers back to like our in class examples. Not positive of the significance but I hope it is okay.