ECE411 Homework_5
System Design and Modeling
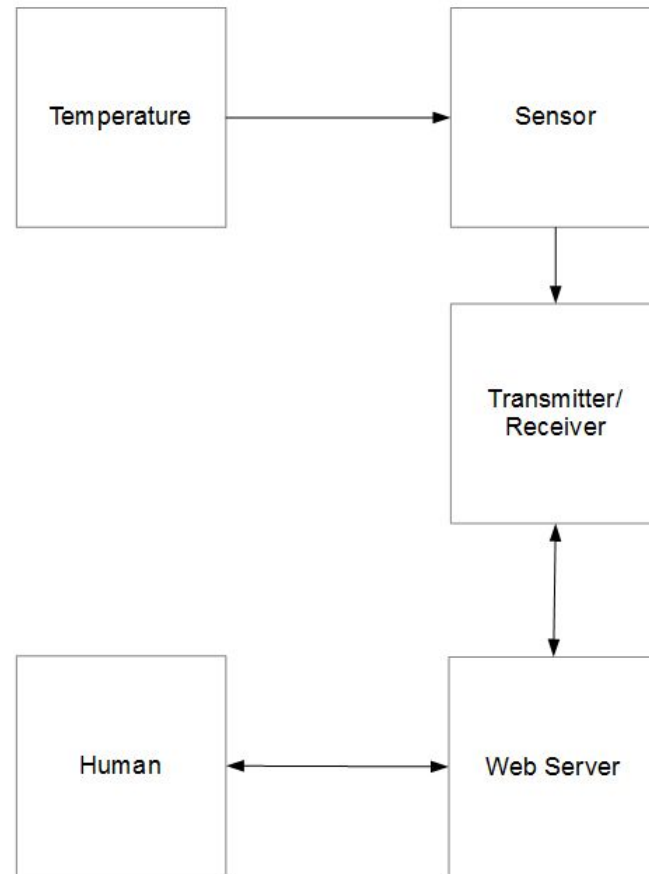
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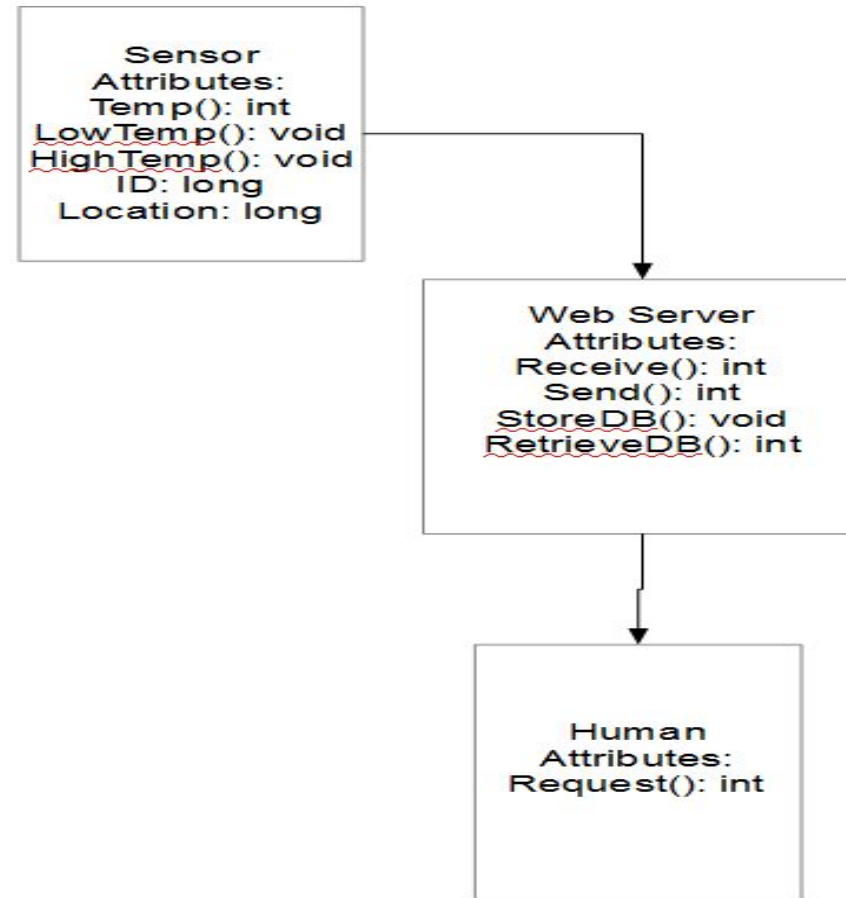
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Vaccine Monitoring System Assumptions/Decisions

- Wireless transmission system
- Web based server / Database using open source protocols

UML physical view

# UML class diagram

Sensor
Attributes:
Temp(): int
LowTemp(): void
HighTemp(): void
ID: long
Location: long

Web Server
Attributes:
Receive(): int
Send(): int
StoreDB(): void
RetrieveDB(): int

Human
Attributes:
Request(): int

UML Use-Case description

Use-case	Adding a Vaccine Temperature Sensor
Actors	WebServer, Database, user
Description	For this case when a new user is adding a new temperature sensor, they will be asked for their information. If he is a known user, they will be asked to input the sensor information (name, sensor ID)
Assumption	Each sensor has a unique ID User is sending information using WIFI network

Steps	1. User sign in:
	   i) If new customer, prompt for their info to create new account(user email, username, password)
	   ii) If existing customer prompt for their username and password for validation
	2. When the user enters the correct information prompt for Sensor ID # and name.
	3. Send the HTTP get string using the Wifi network
	4. If sensor is ready, prompt for temperature range.

Non-functional	The user can always add a new sensor as long as the Webserver is active.

UML activity or interaction view
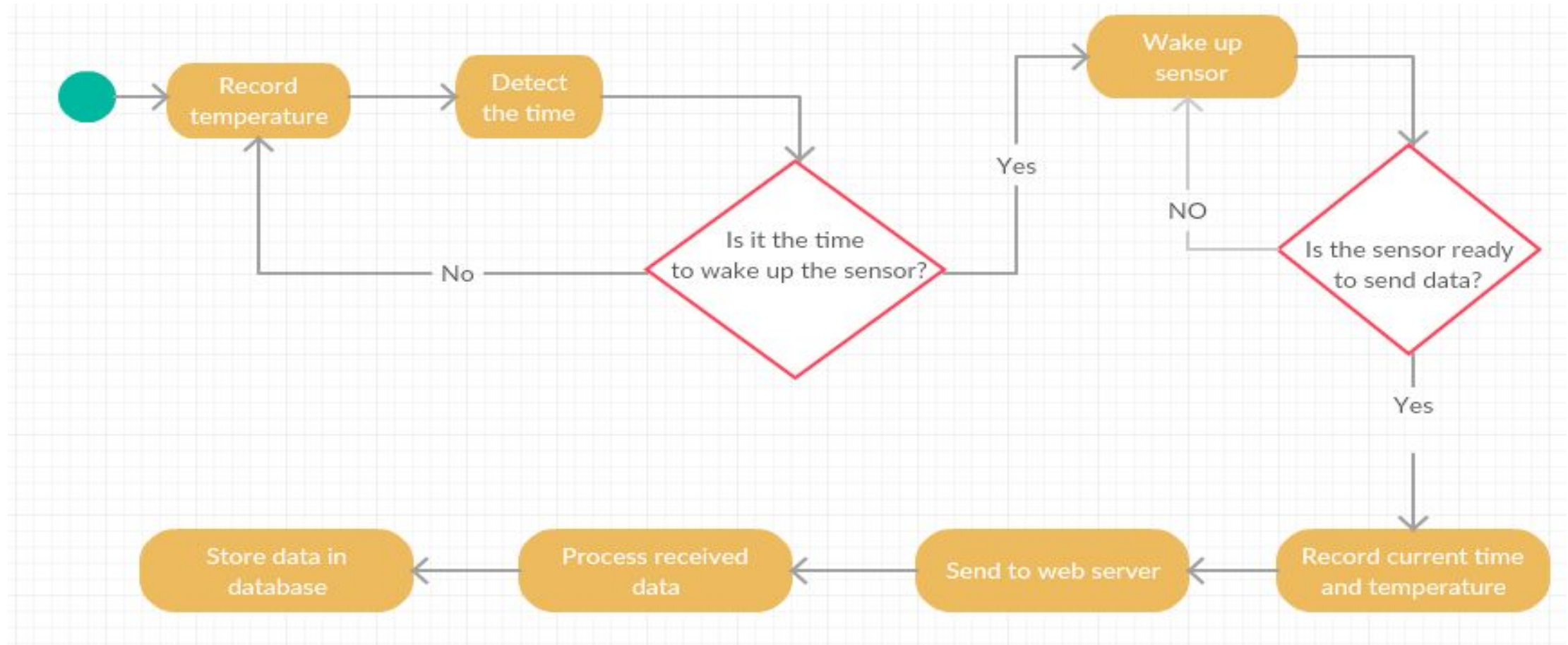
HTTP Get string

The information that needs to be transmitted are:

- identification_number: a unique integer number e.g.: 1205
- name: a string of characters e.g.: myVaccine
- time: using the format hh:mm e.g.: 14:05
- temperature: a floating point number to indicate the temperature in C e.g.: -15.4
- date: using the format mm/dd/yy e.g.: 11/17/16

One of the easiest ways we can parse these information is by using the commas in between the different transmitted data.

For example a transmitted string could look like the following:

[1205,myVaccine,14:05,11/17/16]