

## Homework 2 - CIS 6930: Special Topics in CIS: Digital Health, Spring 2022

Due 1 hour before Exam II Begins

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Q1. What is the difference between the Health IoT requirement for safety and for proper use?

(5 pts)

**Safety of Health IoT pertains to the correct, reliable interactions between the user and the device. The device should be able to detect it is being used in the correct manner and should limit its functionality when it is not being used properly. Proper use pertains to the ability of the device to increase the collective utility of a group of devices. It also canopies the ability for devices to work together.**

Q2. What are the three Health IoT device classifications?

(5 pts)

**Wellness, Personal Health, Medical Health**

Q3. What are the additional requirements for Health IoT over non-health IoT devices? Explain each briefly.

(5 pts)

**Democratization and User Identity/Privacy. Health IoT devices must be available for the masses since health is an issue that relates to every living person. Identity/Privacy is important as health data is sensitive and should only be in the hands of those who have consent.**

Q4. What monitoring services does the Gator Tech Smart House provide?

(5 pts)

**From the PowerPoint notes, the monitoring services offered by the Gator Tech Smart houses were:**

- Recognition algorithms for activities of daily living
- Resident location
- Doors and windows lock status and locker
- Front door virtual peephole
- Mail reminders
- Medications reminders
- Ambient light control
- Hygiene monitoring

Q5. What does the SmartWave appliance and system do?

(5 pts)

(A) Read the food packet information to the user

(B) Quietly set the microwave oven to cook the food packet

**(C) Sense the food packet and identify its content, sets the microwave oven, and interacts with the end user regarding the packet and sending notification when the cooking cycle is completed**

(D) (A) and (B)

**C**

Q6. What disabilities does the SmartWave attempt to assist in?

(5 pts)

(A) Visual impairment

(B) Hearing impairment

(C) Hand dexterity

(D) Cognitive and memory impairment

(E) (A) and (C)

**(F) All the above**

**F**

Q7. This question is about domestic robots (also known as robotic companions). Explain the relationship including the commonality and the difference between domestic robots and voice assistance technology such as Siri, Alexa and Google).

(10 pts)

**What is common between robotic companions voice assistant tech (VAT) is they both exist to serve humans' demands. The difference between them is that a robotic companion (if designed with intent) can physically serve in a plethora of ways, which the VAT cannot do. The VAT can only physically assist humans by means of connecting to other devices with physical capabilities. For that matter, a VAT can be integrated into a robotic companion.**

Q8. What is a smart-ready home and why is it superior to the smart-home concept?

(5 pts)

**A smart ready home is a home that has the capability to become a smart home but does not already possess specific smart home qualities. This is superior to a smart home because it gives the person living in the home the freedom to choose HOW they make their home smart without being restricted to the preinstalled option.**

Q9. What is the difference between sensor and context modules in the AWARE framework?

(5 pts)

**Sensor modules are preexisting modules in the phone that can be tapped. context modules are developer created and able to accomplish virtually anything with "context"**