Software Project Management

Lab 2

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**Topic:** Fall Monitor

1. A description of why you chose your topic, which can include an introduction to the topic idea, the problems your topic is tackling and what you hope to accomplish with it.

The *Fall Monitor* device uses motion detecting sensors to indicate whether the user has fallen. After a period of inactivity following a fall, the *Fall Monitor* device will call a *Fall Monitor* agent who can send GPS coordinates as well as client information to emergency services. This device is proposed to lower the number deaths among seniors who suffer significant falls. The device will be given away for free to seniors (aged 65+) and individuals with relevant disabilities and a valid health card. The cost will be offset by those who do not meet this criteria but still wish to purchase the device. We have chosen this project because it is of high importance (lives on the line), integration of multiple technologies(sensors, calling software, website, backend server to store user information, security of information), and its potentially challenging profit strategy

1. Clearly outline your project’s objectives. Some objectives may seem generic, but you must also include objectives that are relevant to what your project is doing. Examples include: (Minimum of 5 objectives is required)
   1. Simplify the organization and management of the artists’ records for the investor by allowing the investor to add new artists and track their performance
   2. Costs must not exceed the money provided by the investors’ contract.

* Primary Objective: Create a working fall monitor
* How is this going to be accomplished?
* Achieve communication with ZigBee system
* Successfully receive emergency distress signal from communication device
* Build working model government webpage to ensure validity of free device offerings
* Ensure gyroscopic & accelerometer (as well as any other embedded sensors) accurately measure and record a fall
* Establish a website to ensure the validity of seniors (aged 65+) to receive the device for free
* Payment and processing system setup to allow for those who have to pay to process their transaction
* Back-end server setup to allow for processing of orders, and where those orders need to go

1. Outline your project’s measures of success. How would you say that your objectives are being met?
   1. Number of devices distributed exceeds 250,000 by the end of the second year
   2. The number of false positives is below 5%
   3. The number of reported false negatives is below 2%. This should be lower than false positive as a false negative is incredibly dangerous and could be fatal
   4. Number of users who independently purchased the device is greater than 15% of total users (For cost offset)
   5. Time from fall detection to alerting of emergency services should average less than 60 seconds
2. Finally, state the infrastructure, be it hardware or software, you’ll need for your project. An example of that can be: “Cloud server to store the artists’ database.”

Include at least 4 points (No need to go into specifics)

* Server storage for hosting the website
* Purchased domain name for the website to be referenced from
* Embedded sensors within the device itself
* Embedded communication method for the device to send an emergency signal
* Module connected to a phone to listen and respond should an emergency signal be received