Meeting #: 3  
Thursday February 27, 2007  
Team D.E.A.D.S

**Agenda:**

1) Review responses from client interview with Dr. Wall  
   -- Discuss technologies for project’s solutions  
2) Assign research roles for team members

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1) Review client interview responses with team + Dr. Wall

The following are the information gathered from discussion with team + Dr. Wall regards to responses from client interview:

-- **Goals:**
   -- **Research:** come up with a preliminary design: estimate the raw materials and production/assemble costs
   
   -- **Sensor research:** get technology that fits to this project, buy sensors is a good choice; do not want to invent/create a sensor network, that’s very hard to do and take a lot of time
   
   -- **Laser for proximity detection:** laser beam technology, intrusion/proximity sensor technology
   
   -- **Research:** transmitter/receiver technology to detect/send 300ft between each devices/sensors
   
   -- **Research:** communication protocol  
   -- **Research:** solenoids driven-power consumption  
   -- **Research:** Was it the original design or the valve or the timer that cause the inconsistency in timing/triggering response interval  
   -- **Research:** control technology(PIC microcontroller): power consumption, development costs, fpga/cpld. Note: CPLD is good because of low cost

**Note:** consider research of ASIC solutions (you could build simple logics solution yourself, but this is not good, b/c it will ruin/mess up the power consumptions/logics for your system). So use fpga/cpld

**Note:** all solutions must be low power due to system running on battery-driven
Will the power be running while transferring from one place to another?
Note: Canon = hear RF signal, it will fire, no encoding requires
Note: you can ctrl the sensing, but cannot ctrl the RF wireless (very tough)

Note: Solve the most simple solution as possible, if it solves 95% of client’s goals, it’s good to go.

Solutions for timer: 1) Logic device 2) existing technology 3) processors: i.e. Pics: got 8pins for information flow. This solution requires cost for equipments and development tools =⇒ Using existing tech is better due to low cost of development

Short-term goals:
1) Make a list of specifications given the answers from the interview
2) Block diagram of major components to the system⇒ conceptual design of the system
3) List of desirables
4) Send back to Dave, specify the specifications

Team goals Next meeting: 1) divide research duties for each team member
2) Number of pros and cons for variety of options: power, cost, complexity to use. Get as many sols as possible
For Thursday:

HERE ARE RESEARCH ROLES FOR EACH MEMBER, DO RESEARCH PRIOR TO THURSDAY MEETING:
1) Topics Research:
   Lassen: ctrl
   Justin: sensor
   Ngon: communication
   Travis: solenoid

Note: Look for the followings in your research: pros, cons, power, cost, complexity of usage

2) Come up with specifications/desirables (For Thursday meeting, we’ll do this)