Sketch Models

Silver B
WILBUR WAKE UP

- Heating 400°F for 15 min
- Dishwasher Safe
- Oinking Alarm
- Cooling <40°F
- Scents have a profound effect on demeanor

SKETCH MODEL GOALS

• Develop an alarm clock in software

• Use a low power Digital I/O port to turn on high power heating elements

• Prove the functionality of the development platform
SKETCH MODEL

Arduino

Solid-State Relay

Heating Element
LESSONS

• Software and firmware implementation will be possible with more time

• Power for heating & cooling controllable by Digital I/O Port
  – I/O Port is low power: 40mA at 5V
  – Toaster draws 7.37A at 120V

• Power issues using custom Arduino
**MARKET & BENCHMARKING**

- No existing US patents found
- **WAKE n' BACON**
  - Halogen lamp only

  - **Market (US)**
    - $145B spent on gadgetry in 2007
    - $1200/household
    - “Clocky” by Nanda Home as a model:
      - $650k revenue in 2007 to $4M projected in 2010
SURVEY RESULTS

• Good gift
• Incentive to be awake
• Convenient
• Nice for occasional use, like exam days for students
• 69% of polled MIT students would buy this product
SURVEY RESULTS (CONT)

• Concerns
  – Maintenance
    • Cleaning oil & fat buildup
    • Restocking
  – Edibility
  – Proper food handling & refrigeration
  – Safety (fire, hot grease, burning)
Next Steps

- Incorporate cooling/refrigeration element
- Decide between direct & convection heating
- Address cleaning & scent maintenance
- Determine shape & size of the alarm clock
- Add an interface