ZEN

# Four Perspectives

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what we'll talk about

# NEW!
# IMPROVED!

Extreme couch potatoes, sit up and take note!

The world's greatest invention
becomes even better

# ONE remote

... and this one works

great throws of remote control history

May 18, 1972

Joe B., Smithfield, Va., heaves remote through window

damages: $635,729

lawsuit: man lacerated by flying glass while walking dog.

December 26, 1988

Alfonse S., Mars, Pa., annihilates universal remote

action: jumps up and down on it, yelling, "Die, die, die!"

damages: $5,793.19 (Christmas tree knocked over in chaos)

lawsuit: wife filed for divorce

great throws of remote control history

July 4, 2003

Ralph D., Lilydale, N.Y., killed by remote

action: beaten to death by wife when he clicked once too often

quote: "I warned him."

outcome: wife found not guilty by jury of 12 women


October 11, 2007

Donald C., Winter, Vt., electrocutes dog by remote control

quote: "It wasn't good for anything except a Frisbee, but I sure miss ol' Mongoose."

On a typical day:

**88%** of respondents used 1-4 remotes

**60%** found themselves picking up the wrong remote

**56%** needed to look at the remote to use it

**52%** rated themselves as competent at using and understanding technology

**44%** of respondents had a family member with vision problems

**14%** of respondents had a family member with hearing problems

*****

**52%** were highly interested in the Zen remote

informal survey responses

Describe your ideal remote
- -- voice activated: "TV, change to channel 11"
- -- tactile identificaton of buttons
- -- large keys
- -- lighted keys
- -- signals location if lost
- -- truly universal; can sync with everything

# transform the remote

"too" problems

- too many tiny, similar buttons
- too many remotes in one house
- too difficult to tell apart
- too difficult to program
- too difficult to find

## a remote that will

program from RFID chips in electronic devices

work on all remote-controlled appliances

be usable by

-- people with low vision

-- people with hearing problems

-- people with arthritis or other motor problems

-- children or senior citizens

be easy to find if lost

activity breakdown

looking: time spent studying at remote before action

pressing: time spent setting up and activating command

watching: time spent looking at television screen

situating: time spent getting ready to use remote

## scenarios of current and transformed use

**current**
-- locating the remote
-- looking at the remote
-- finding buttons
-- pressing buttons

**transformed**
-- standardized location
-- tactile feedback
-- better labeling
-- minimize number

# observations

4 people, 30 seconds each

## Observations 1-2

-- made at kitchen TV

-- timed using stopwatch

-- no interference

## Observations 3-4

-- made at living room TV

-- tasks: find remote, go to channel, watch, change
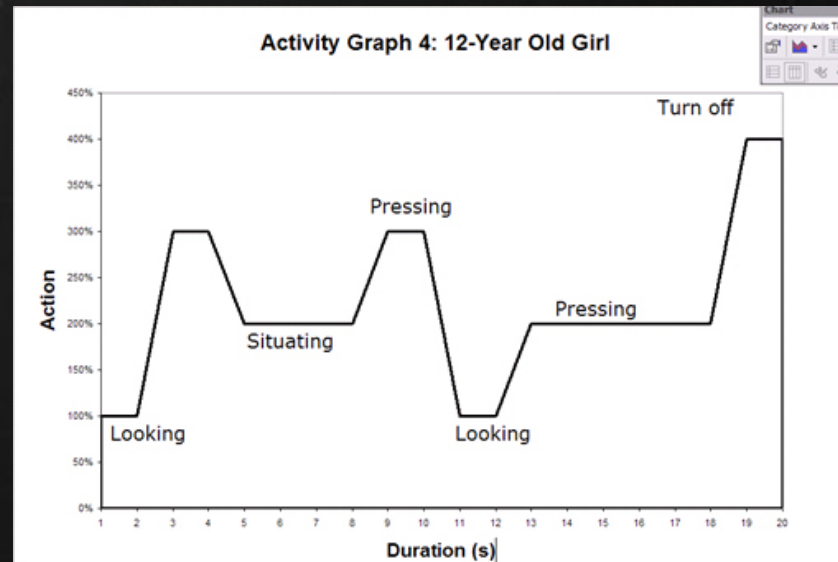   channels/devices, turn off TV

-- no interference

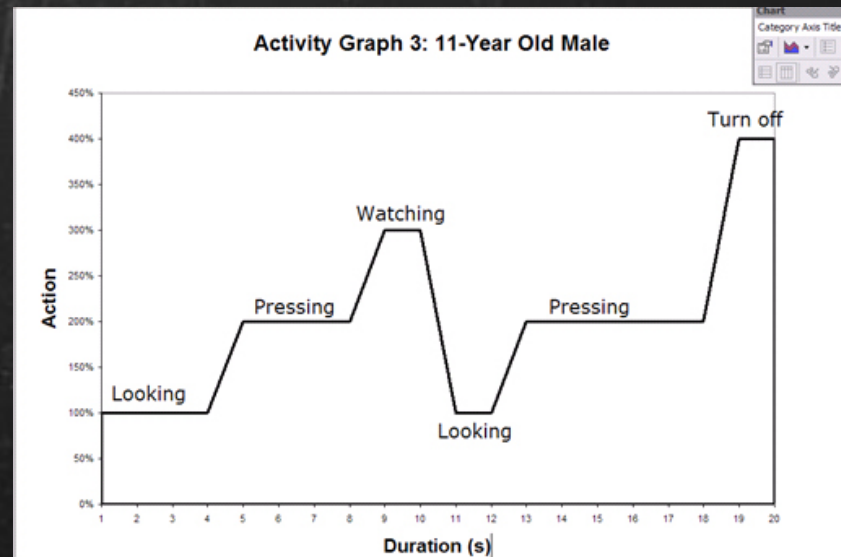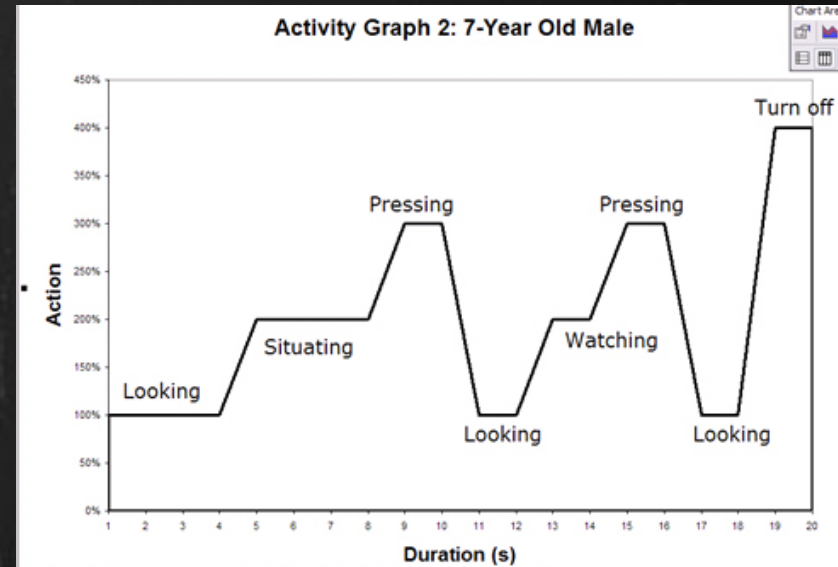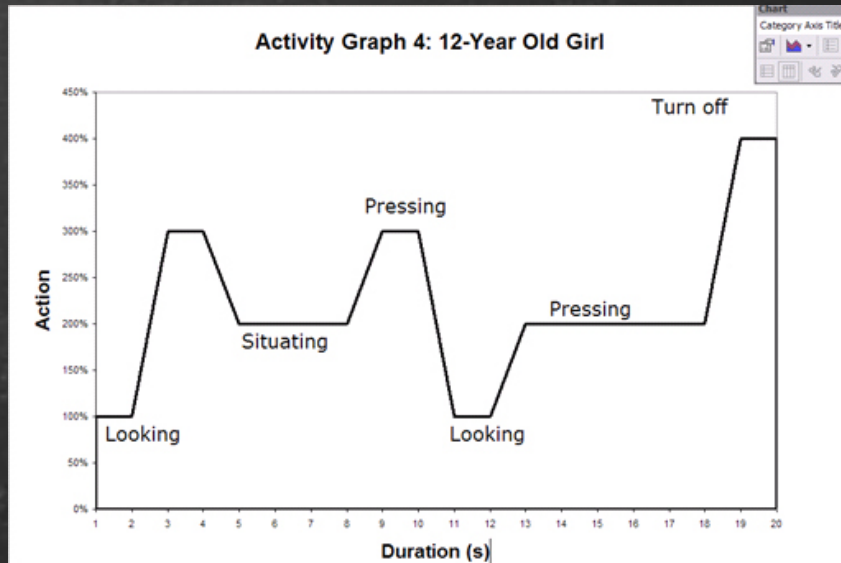sample observation

tasks
find remote
turn on television
change channel/device
turn off remote
replace remote

# activity graphs


Activity Graph 4: 12-Year Old Girl


Activity Graph 2: 7-Year Old Male


Activity Graph 3: 11-Year Old Male


Activity Graph 4: 12-Year Old Girl

Activity Graph 3: 11-Year Old Male
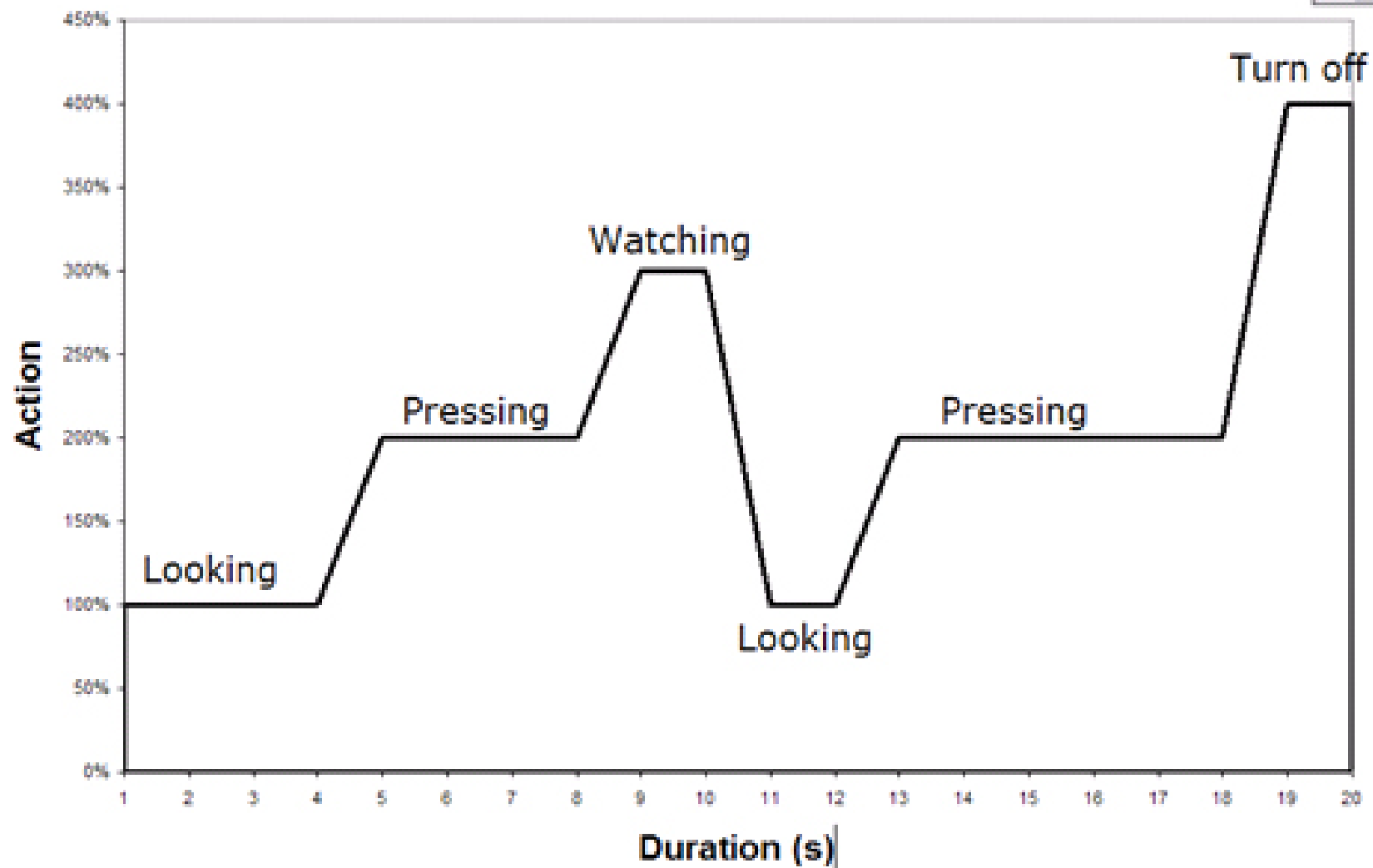
# requirements

## The people we observed

-- spent most of their time looking at the remote

    -- had to look down to find numbers

    -- had to look down to find specific buttons

-- had a minimal amount of trouble targeting buttons

    -- we did not test significantly older users

    -- we did not test less tech-savvy users

## What the Zen will do

-- use RFID technology to solve programming problems

-- use tactile feedback to minimize looking at remote

-- have clear labeling to minimize confusion

-- have a minimal amount of buttons

impact

Baby Boom generation (1946-1964)

78 million people with potential for age-related problems

arthritis

degenerating vision

degenerating hearing

mobility problems

anyone with similar problems

transformation

electronics -- devices less formidable to the tech naive

more intuitive to use

people -- reducing frustration

making technology doable for less tech-savvy