Mallrats: Mirror Image

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Mallrats: The Problem

Project Setting and Audience: Identify potential problems that groups of 2-7 people may experience in a commercial shopping center. We define this as any place that people go for shopping as a leisure experience, not solely for purchasing. For example, a mall would be an ideal setting, whereas the grocery store would not fit our description. The demographics of the most common groups are: large families with small children or single parents with small children, young dating couples (aged 15-25) or older married couples (aged 40-60), and single-sex groups of teenagers (aged 13-20).

Mallrats: Interviews & Observations

Observations

- Stanford Shopping Center
- Valley Fair Mall
- Walgreen's
- Stanford Bookstore
- Furniture stores

Interviews

- Information Desk
- Security Officers
- Store Clerks
- Shoppers
- Teenage boys
- Teenage girls in dressing room
- Middle age man

Mallrats: Problems

Getting Separated from your Group

- Separated vs. Lost

- Both kids and adults can easily become distracted in malls.

- Kids can easily be confused when they identify their parents from the knees and down.

Collaborating on a Purchase

- Husband needed wife's permission before he could purchase anything.

- Couples who make big purchases would like a way to collaborate on the purchase or if a shopper identifies an item that another person might like will purchase it, only to return it later.

- People like to have a second opinion other than the sales person.

- People purchasing items, take them home, model the items, and then return the items.

Mallrats: Point of View

User Group

- Shoppers who are separated by space and possibly time.

- People who want or need a second opinion.

- Purchases with lasting value and impact to user.

Goals

- Allow separated shoppers to clearly talk about a product, and to receive emotional/facial response about a product.
- Facilitate recall of products already seen.
- Receive expert advice or approval from another party.

Mallrats: Central Persona

Sandy

- Age 34, married, lives in Menlo Park, with a 1 year old daughter.
- Shops for household items, gifts, and occasionally clothing for herself.
- Husband, Dan, works full-time as lawyer.
- Works part-time as receptionist in dentist office.
- Drives to the mall in her car, only goes when mall isn't crowded so parking is easy.
- Goes to the mall several times during the week with daughter or best friends.
- Buys all of her husband's clothes and brings it home for him to try on and returns the rest.
- Shops for a new couch for their three bedroom home during the day while husband is at work.
- Goes to optometrist during the day when husband is at work.

Mallrats: State of the Art

- PDA's
- Cameras
- Cell phones
- Instant Messaging
- Virtual Dressing Room
- Amazon's peer rating system

Mallrats: Ideation

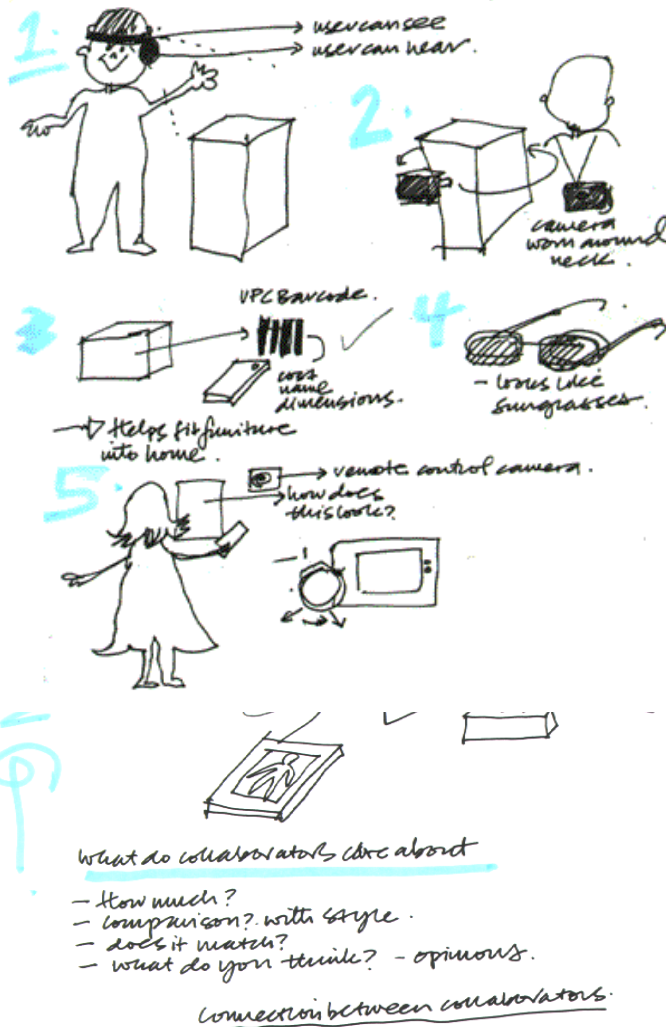### Instant Communication

• Allow shoppers to collaborate real-time on a purchase.

Product Photo Archiving

• Allow shoppers to track products and where it was sold.

Photo Annotation

• Shoppers can communicate via annotated photos.

Digital Rendering

• Super-impose products onto shopper's photo of gift recipient.

In-store Virtual Message Boards

• Leave messages for friends about products to look at.

Mallrats: Prototype I

Features
- Buddy list of who is online
- Synchronous & asynchronous communication
- Voice communication
- Streaming video of speaker's face
- Camera for pictures of product

System Components
- Wireless connection
- Two cameras (face & product)
- UPC scanner
- Computer/text input interface for remote shopper
- UPC scanner for product specs

Mallrats: User Testing

Users

- Young Mother - Architect
- Older Man - Innkeeper
- Two Construction Workers
- Young married Couple - Technical Professionals

Feedback

- Most functionality as a feature, but not as a device.
- Most prefer the watch because of its smaller size.
- "I have enough crap." Already carries many communication devices (walkie-talkie, pager, Palm pilot and cell phone) so would not want to carry another.
- Innkeeper likes the device; can imagine himself using it with his wife.
- Would like to see the features incorporated into a cell phone, which is an existing ubiquitous device.
- Doesn't want something expensive to lose

Conclusions

- Incorporate functionality of device into existing, ubiquitous hand-held device, or
- Market the device to retailers, not consumers

Mallrats: Prototype II

Features

- Synchronous & asynchronous communication
- Voice communication via user's cell phone
- Streaming video of speaker's face
- Camera for showing product on shopper
- Input of product specs from store database
- Web interface for remote shopper to see product and give feedback

System Components

- One-way mirror with hidden camera
- Wireless connection
- UPC scanner
- Jack to plug in cell phone
- Help screen, video receive screen, video send screen

Attributes

- Handheld, provided by store

Mallrats: User Testing

Users

- Surgeon and homemaker, mid-forties
- 11 and 12 year old boys, 14 year old girl
- Retired woman
- Two women professionals, friends, early thirties

Feedback

- Most wanted to be sure to be able to see what image of themselves they were sending
- Teenagers needed parents' approval for purchases: "Let's say my parents dropped me off and I needed to ask if I could buy something."
- Teenager frequently gets her mom's opinion for purchases
- Retired woman thought device would be useful for buying glasses.
- Surgeon thought UPC scanner and ability to email product pictures to remote shoppers was great.
- Homemaker said she 'can decide what she wants to do with her own money'

Mallrats: Scenario

- Sandy goes to her optometrist on Monday afternoon.

- She looks for new frames after having her eyes checked.

- But she can't see the frames on herself without prescription lenses.

- She doesn't want to come back to the store.

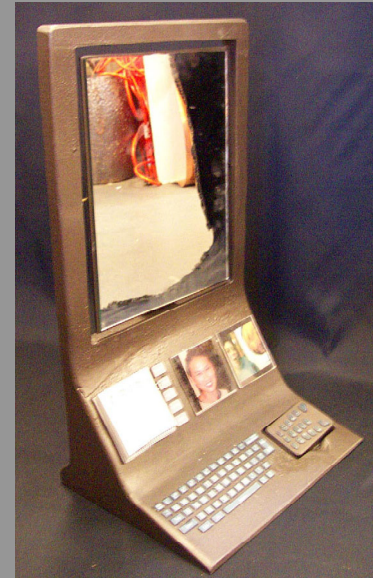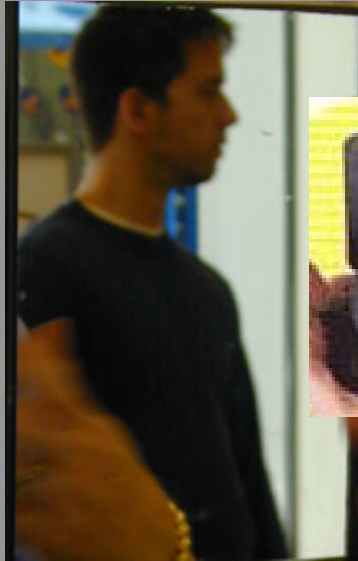- She uses the Mallrats Mirror to show her husband and her sister the frames she liked.

Mallrats: Scenario

- Sandy's husband sees her trying on glasses on his work PC, his webcam sends video of his face.

- Sandy can tell from her husband's face that he doesn't like the first frames.

- He likes the second and third frames.

- Sandy's sister sees the frames on her web-enabled phone and replies.

- Sandy checks the web interface to see her sister's comments.

- Her sister loves the second frames.
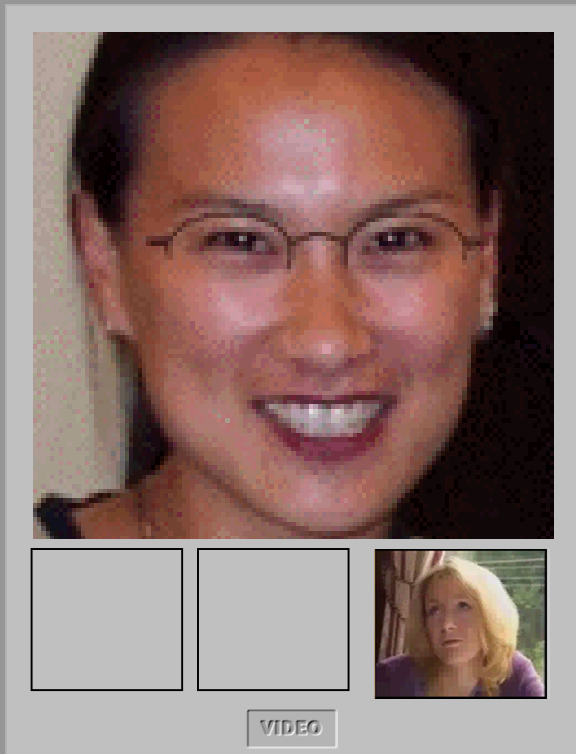
- Sandy decides to buy the second set of frames.

Mallrats: Functionality Interaction

VIDEO

PHOTO

mallrats

Product 1 of 2   Next >

Hi Mom, I'm shopping for glasses and I need your opinion. I picked out two, what do you think? Nancy

Glasses Information

Shop: Eyeglasses Boutique

Brand: Lafont   Frame: Auburn   Price: $400

Colors: Black, Silver, Dark Brown   Material: Metal

UPC: 99984 5457 2222

Please rate them:

1   2   3   4   5

(1 being highest and 5 being lowest.)

Sales Representative: Quinn Jones, 650.650.5555

Opinions?

Submit

Product 1 of 2   Next >

entative: Quinn Jones, 650.650.5555

WEB
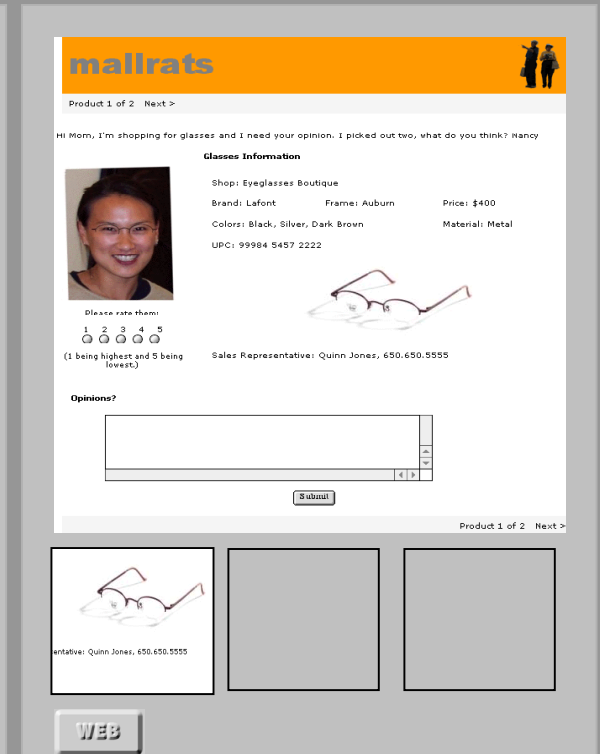
Sandy picks up the phone and calls her mother who connects with her via video-conferencing over a desktop web-cam.
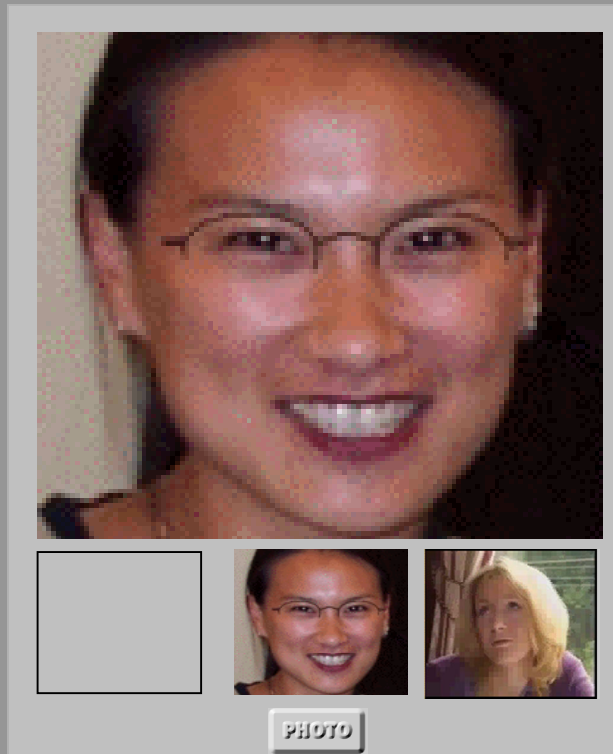
Sandy models the new glasses in real time and watches her mother's face for expressions. She also hits a button to take a snap shot of her image.

Sandy scans the item using the UPC code scanner and uploads the image to a web site along with her photograph, her own notes and her mother's comments.

Problem   Research   Point of View   Prototype 1   Prototype 2   **Final Prototype**

Mallrats: Final Prototype

Refined Point of View

- The product is designed for optical and sunglass retailers, allowing consumers to shop together yet remotely for eyewear. Allows poorly-sighted customers to get an accurate image of themselves wearing new frames without corrective lenses.

Features

- Allows shoppers voice, video, or email communication
- Allows web uploading of product specs
- Streaming video of speaker's face, and remote shopper's face
- Display of what the remote shopper sees
- Shopper can take stills of him/herself wearing product

System Components

- One-way mirror with hidden camera
- Wireless voice connection
- Three screens: help/ web interface/ UPC, video send, video receive
- UPC scanner
- Keyboard for inputting questions for remote shoppers via email

Attributes
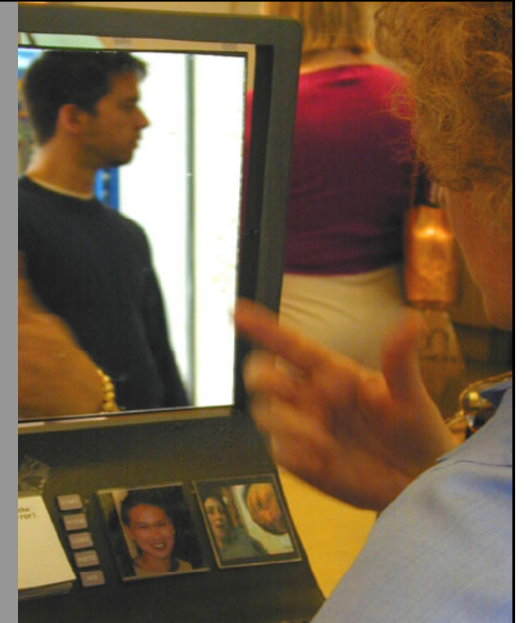
- Desktop, sold to retailers for consumer use

Mallrats: User Testing

Users

- Male and female sales reps, 20's
- Male engineer - Mid 50's
- Female programmer - Mid 30's
- Female homemaker with friend - 30's
- Female single shopper - Late 20's
- Married woman - Mid 50's

Feedback

- "It's pretty cool. Taking a picture is a great idea. It's not enough to look into a mirror because it's hard to tell when you look into one. A picture gives them an out of body look."

- "I should be able to look into the mirror and have the sunglasses superimposed on my face. Then I can go through twenty of them and pick out the best three."

- "It should show work flow"

Mallrats: User Testing

More Feedback

- The keyboard's purpose is not obvious until explained.

- "This would work great with the elderly! I buy stuff for my mom all of the time and she doesn't go out much and I don't know what she wants. This would allow me to show her and see if she likes it."

- "Ooohhhhh" that's really good."
- "This works great for students because parents are not living in the same area."

Conclusions

- Overall very enthusiastic consumer feedback
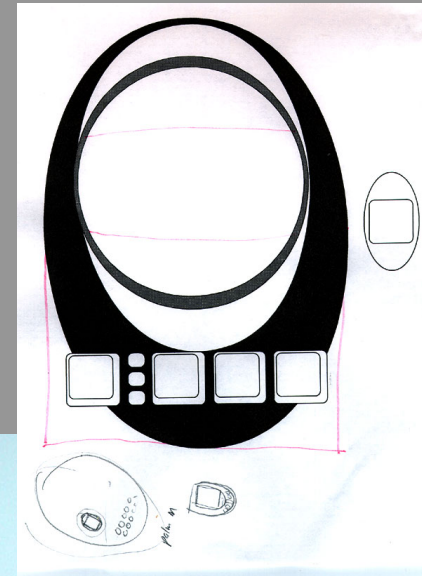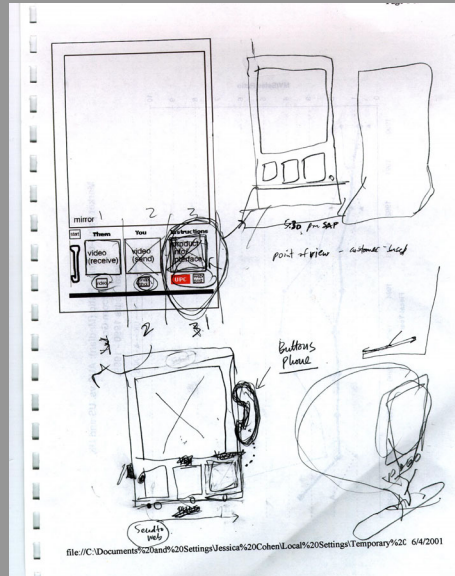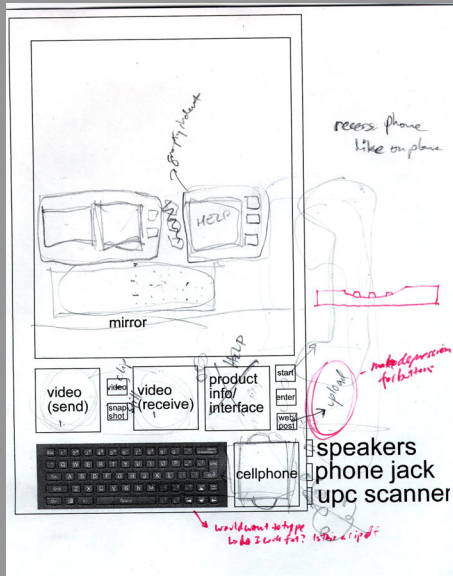- Some confusion as to sequence of functions and meaning of each panel

Mallrats: Response Brainstorming

Interface Design

• Creating a visual display that

  • a) communicates purpose of product to users

  • b) is intuitive to use

Mallrats: Future Directions

sliding panel reveals keyboard when needed for email

1 help screen
button functions: upc, enter, send to web
shows UPC data, interface dialogue

2 video receive
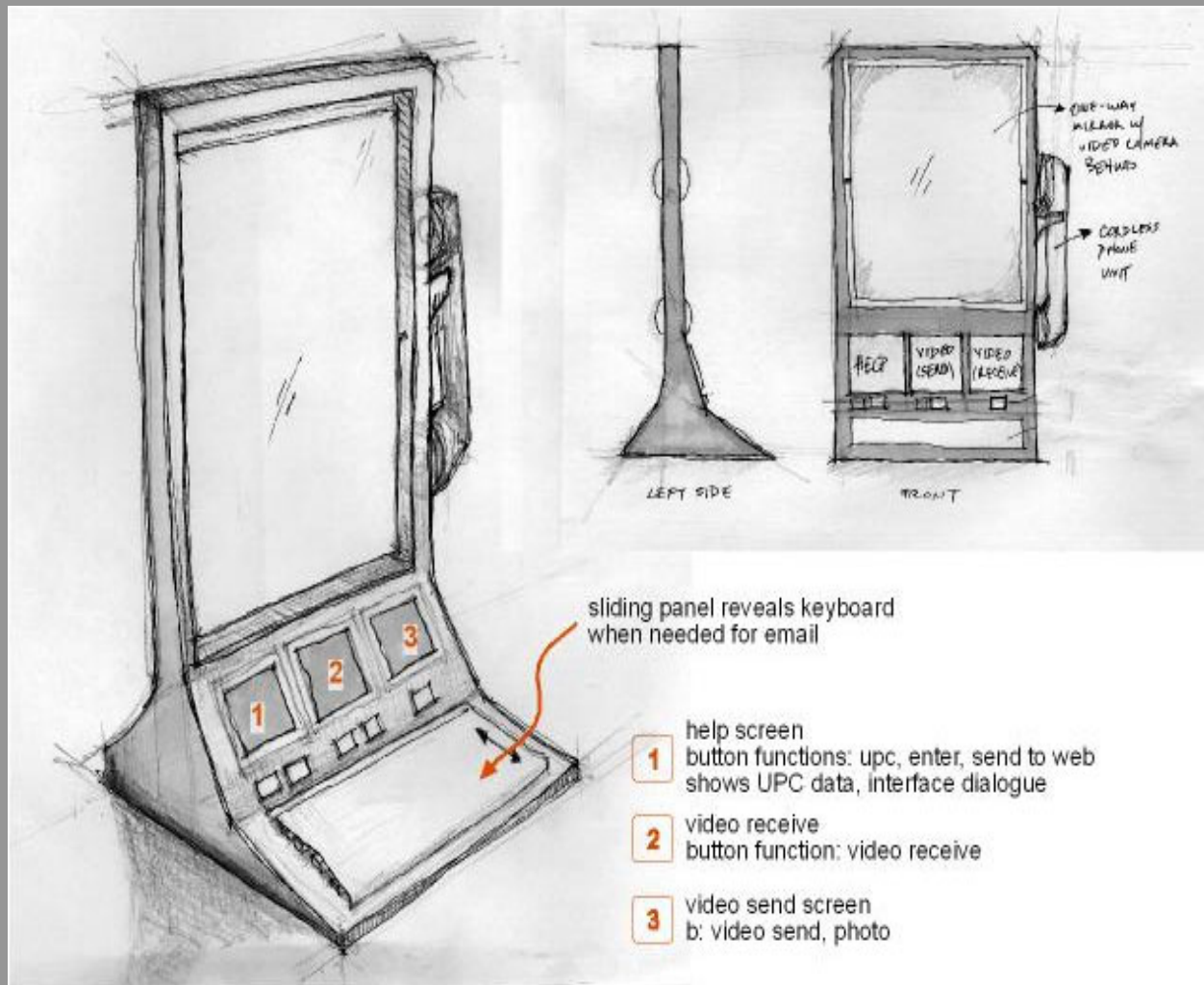button function: video receive

3 video send screen
b: video send, photo

Hardware

- Using mirror as LCD touch screen
- More visually obvious handheld phone unit
- Keyboard hidden by sliding panel

Concept

- Develop as tool for solitary shopper
- Utilize UPC database
- In dressing rooms
- Shopping for large, immobile items, such as cars or furniture
- Store-owned handheld
- Approach for teenage market in functionality and look