Grand Valley State University
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Software Engineering
HCI Design

CIS641

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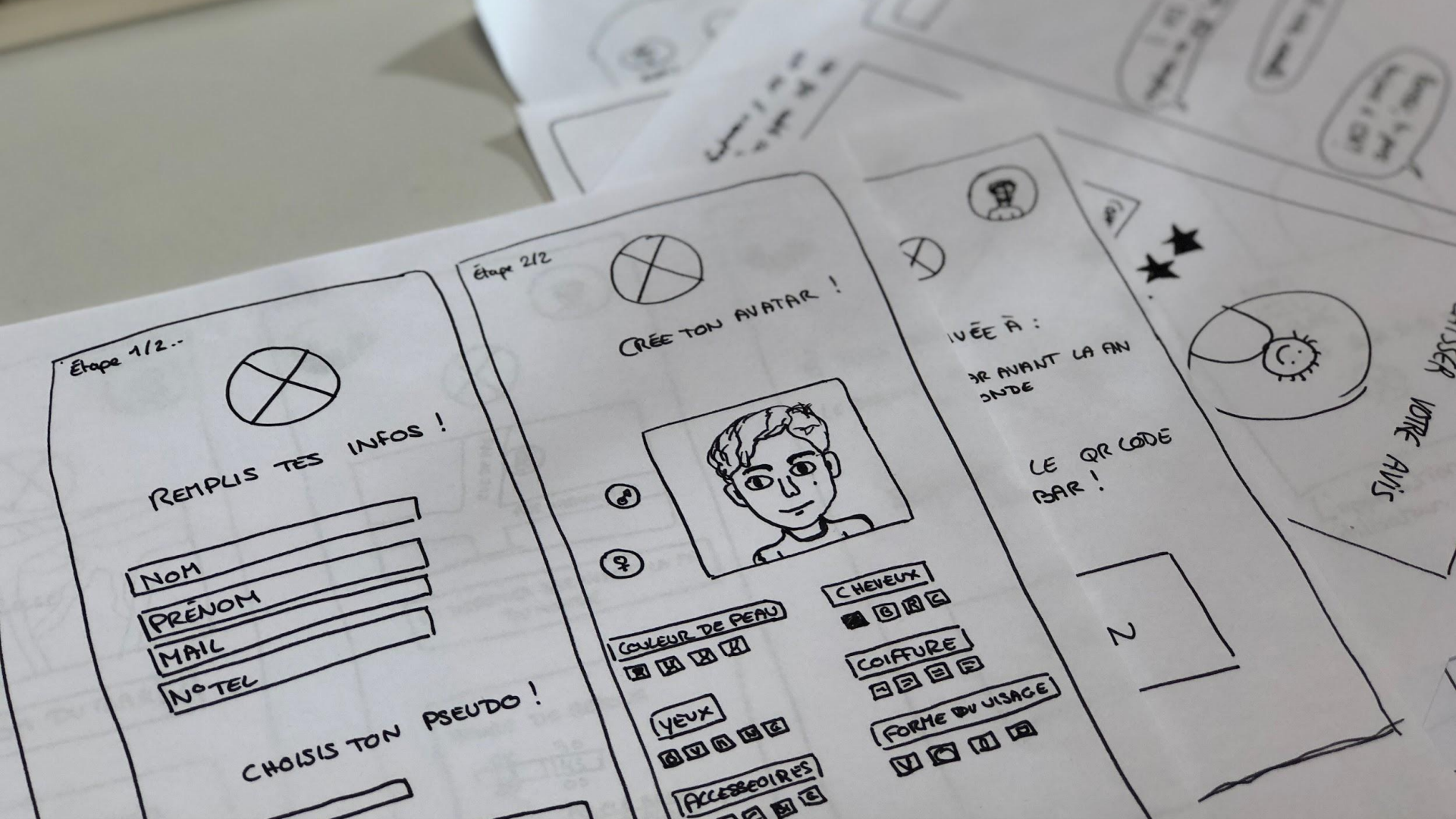
Adapted from materials provided by Gregory Schymik


Étape 1/2..
REMPLIS TES INFOS !
NOM
PRÉNOM
MAIL
N°TEL
CHOISIS TON PSEUDO !
Étape 2/2
CRÉE TON AVATAR !
COULEUR DE PEAU
CHEVEUX
COIFFURE
YEUX
FORME DU VISAGE
ACCESSOIRES
LE QR CODE
BAR !
2

Points to ponder

https://xd.adobe.com/ideas/process/ui-design/good-bad-ux-design-examples/

let's start here

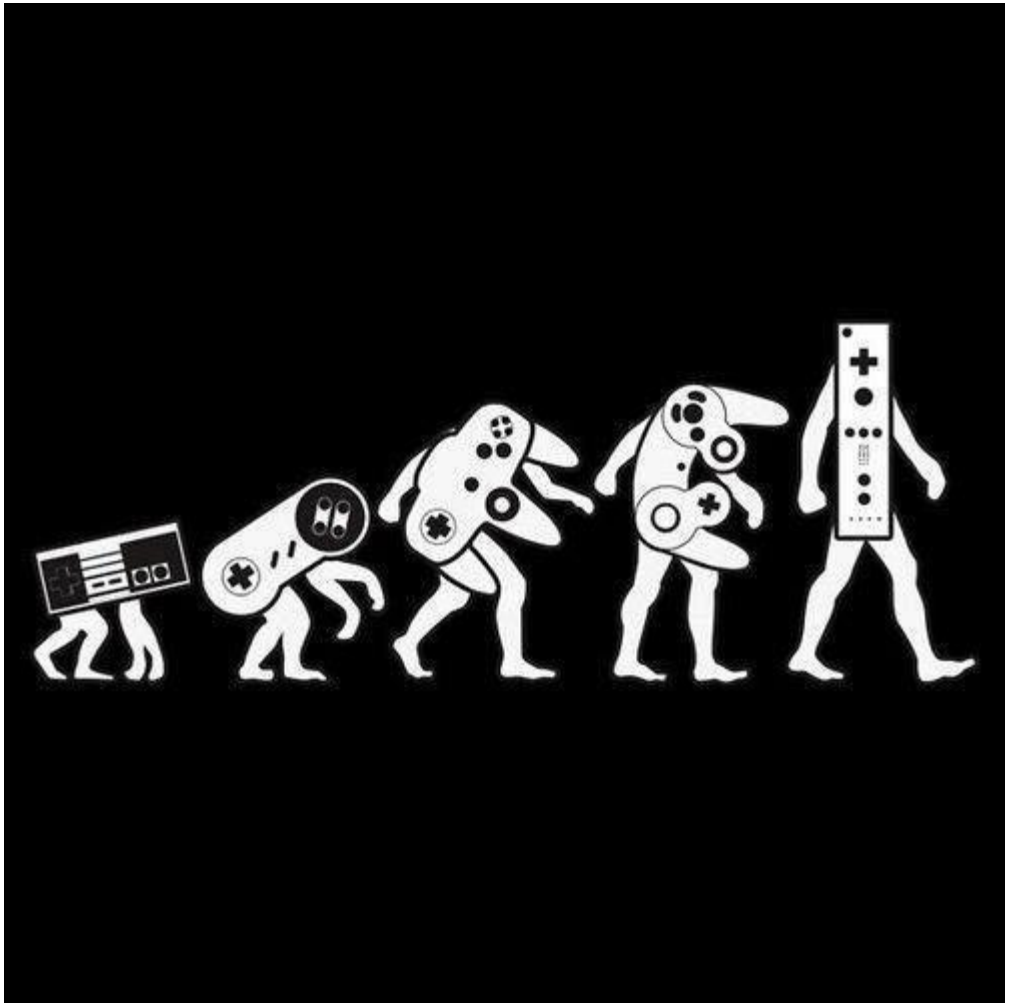
Intro

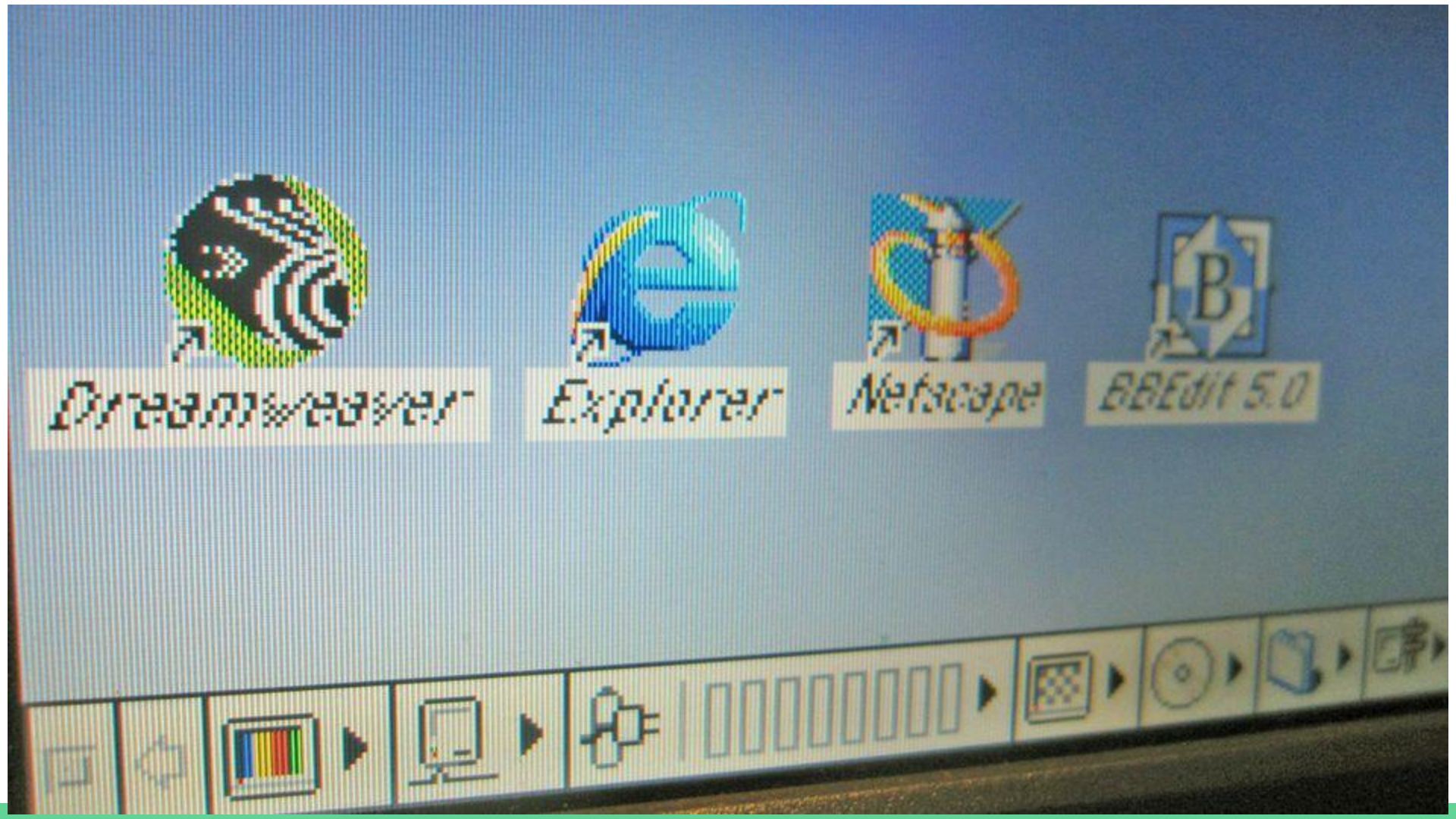
Interface Design defines how the system will interact with external entities (e.g., customers, users, other systems)

- **System Interfaces** are machine-machine and are dealt with as part of systems integration
- **User Interfaces** are human-computer and are the focus of this chapter

Principles for UI design
The UI design process
Navigation, Input, Output Design
Mobile & social media UI design
Non-functional requirements and UI design

What to keep in mind during the entirety of this lecture




Dreamweaver
Explorer
Netscape
BBEdit 5.0

Principles of UI design

Layout of the screen, form or report

Content Awareness
- How well the user understands the information contained

Aesthetics
- How well does it appeal to the user

User Experience
- Is it easy to use?

Consistency
- Similarity of presentation in different areas of the application

Minimal User Effort
- Can tasks be accomplished quickly?

Layout

The arrangement of items on the screen

Like items are grouped into areas

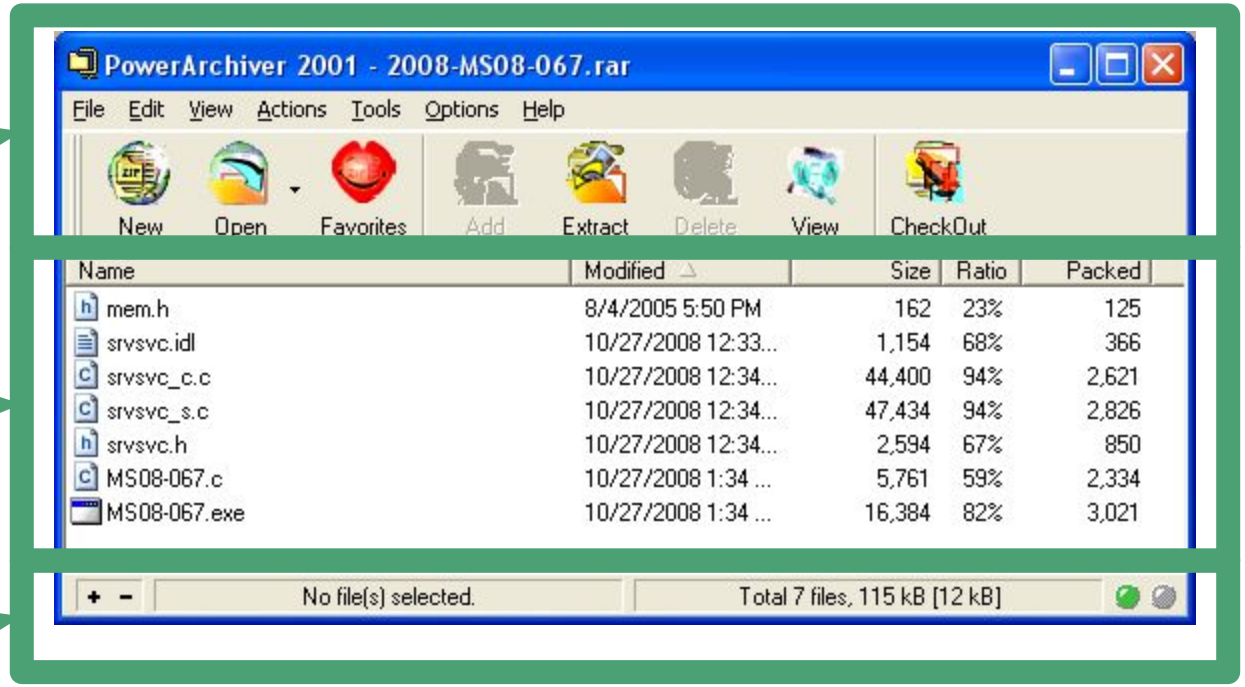
- Areas can be further subdivided
- Each area is self-contained
- Areas should have a natural intuitive flow
    - Users from western nations tend to read from left to right and top to bottom
    - Users from other regions may have different flows

General layout

Navigation area

Reports and forms

Status



Content awareness

Applies to the interface in general

- To each screen
- To each area on a screen
- To sub-areas as well

Include titles on all interfaces

Menus should show **where the user is** and **how the user got there**

All areas should be **well defined**, **logically grouped** together and **easily discernible** visually

【aesthetics】

Interfaces should be functional, inviting to use, and pleasing to the eye

Simple minimalist designs are generally better

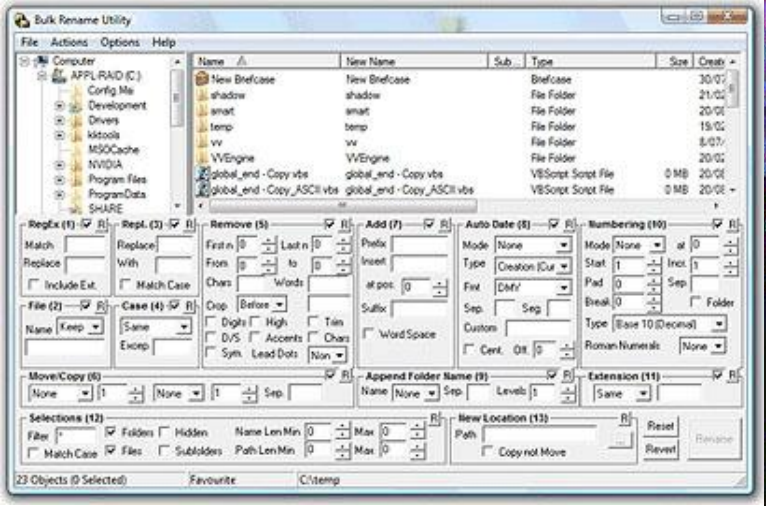
White space is important to provide separation

Acceptable information density is proportional to the user's expertise

- Novice users prefer lower density (< 50%)
- Expert users prefer higher density (> 50%)

Text design: size, serif vs. sans serif, use of capitals

Color and patterns (e.g., don't use red on blue))


Bulk Rename Utility
File Actions Options Help
Computer
APPL (RAID (C:)
Config Me
Development
Drivers
kktools
MSOCache
NVIDIA
Program Files
ProgramData
SHARE
Name
New Name
Sub
Type
Size
New Briefcase
shadow
smart
temp
vv
VVEngine
global_end - Copy.vbs
global_end - Copy_ASCII.vbs
File Folder
VBScript Script File
RegEx (1)
Repl. (3)
Remove (5)
Add (7)
Auto Date (8)
Numbering (10)
File (2)
Case (4)
Move/Copy (6)
Append Folder Name (9)
Extension (11)
Selections (12)
New Location (13)
Reset
Revert
Rename
23 Objects (0 Selected)
Favourite
C:\temp


Cairnsy
11630/11630 100%
8723/10765 81%
Sathrovarr the Corrupter
81%
1693500/1693500 100%
Demon
Bolt
Inner Veil
Sathrovarr the Corruptor
Name TPS Threat %
Mydruid 2169 59.0k 53%
> Pull Aggro < 42.4k 10%
Coburn 496 38.5k 0%
Mallen 973 40.3k -2%
Stormcrow 96 35.8k -8%
Sheytan 567 34.9k -10%
Abeha 520 29.6k -36%
Cairnsy 78 4.8k -88%
Mydruid
15006/22654 66%
100/100 100
[-1] Sathrovarr the Corruptor
Siphon Life 21s
Curse of Agony 12s
Corruption 8s
[-1] Kalecgos
Siphon Life 3s
Wild Magic - Increased casting time on Off!
Spectral Realm: Ithacas (Group 2)
Damage Done
1. Savory 104154 (1258.1, 13.1%)
2. Stormrager 102277 (1444.0, 12.8%)
3. Eliza 91224 (1052.4, 11.5%)
4. Clotho 84013 (1047.7, 10.5%)
5. Mindslayer 73460 (1251.9, 9.2%)
6. Tyra 66961 (799.9, 8.4%)
7. Elvadriendra 60420 (793.9, 7.6%)
Arcane Buffet
Spectral Realm
Mallen (4) 8.0
Megrim (4) 11.0
Yzza (4) 14.3
Abeha (4) 16.7
Savory (5) 28.6
Clotho (5) 33.4
Shadowhate (1) 36.2
Shadow Bolt (1.3s)
Mydruid (1)
Cairnsy (1)
Ithacas (2)
Elvadriendra (2)
Off (2)
Imbued Nether...
Ithacas, Hand of Ardal
Eminent
Level 70 Human Priest (Player)
PvP
[Raid Warning] [Clotho]: Coburn: Corrupting Strike
[Raid Warning] [Clotho]: Possible portal in 5 seconds!
[Raid Warning] [Clotho]: Wild Magic - Increased casting time on Off!
[Raid Warning] [Clotho]: Spectral Realm: Ithacas (Group 2)
Kalecgos yells: I will purge you!
Sathrovarr the Corrupter yells: Haven't you heard? I always win!
[Raid] [Coburn]: - I activated Challenging Shout! I will be taking more damage for 6 seconds! -

User experience

Ease of learning
- Significant issue for inexperienced users
- Relevant to systems with a large user population

Ease of use
- Significant issue for expert users
- Most important in specialized systems

Ease of learning and use of use are related
- Complementary: lead to similar design decisions
- Conflicting: designer must choose whether to satisfy novices or experts

Consistency

Extremely important concept in making the system simple

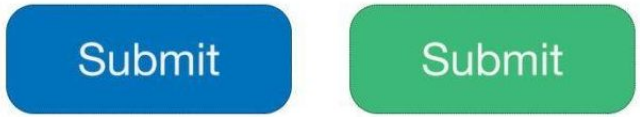
- It allows the users to predict what is going to happen
- All parts of the system work in the same way
- Users learn how one portion works and immediately apply it to others

Key areas of consistency are

- Navigation controls
- Terminology—use the same descriptors on forms & reports

Consistent!!!

1. Visual consistency



2. Functional consistency
3. Consistent with user expectations

Reduce Cognitive Load

1. Chunkify info or actions

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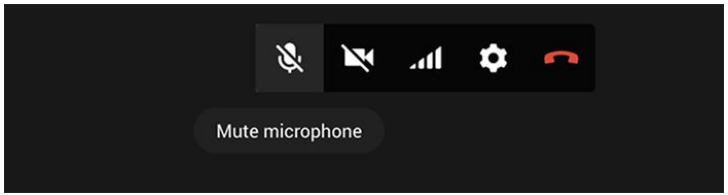
1 (650) 238-89-15

2. Reduce # of actions
3. Recognition over recall



4. Promote visual clarity

Minimal. User. Effort.

(i.e., *users are losers* ➜ thanks my undergrad CS prof)

Interfaces should be designed to minimize the effort needed to accomplish tasks

A common rule is the three-clicks rule

Users should be able to go from **main menu of a system to the information they want** in no more than **three mouse clicks**

(2019) https://youtu.be/rWMoC6wPgIU
(2025) https://www.youtube.com/watch?v=4oBkm4YPkQM

Web Design Principles

2014

- Purpose
- Communication
- Typefaces
- Colors
- Images
- Navigation
- Grid based layouts
- “F” Pattern Design
- Load Time
- Mobile Friendly

https://shortiedesigns.com/blog/10-top-principles-effective-web-design/

2018

- Simple
- Consistency
- Typography and Readability
- Mobile Compatibility
- Color palette and imagery
- Easy loading
- Easy Navigation
- Communication

https://wpastra.com/good-website-design/

Golden rules

https://xd.adobe.com/ideas/process/ui-design/4-golden-rules-ui-design/

Place users in control of the interface

Make it comfortable to interact with a product

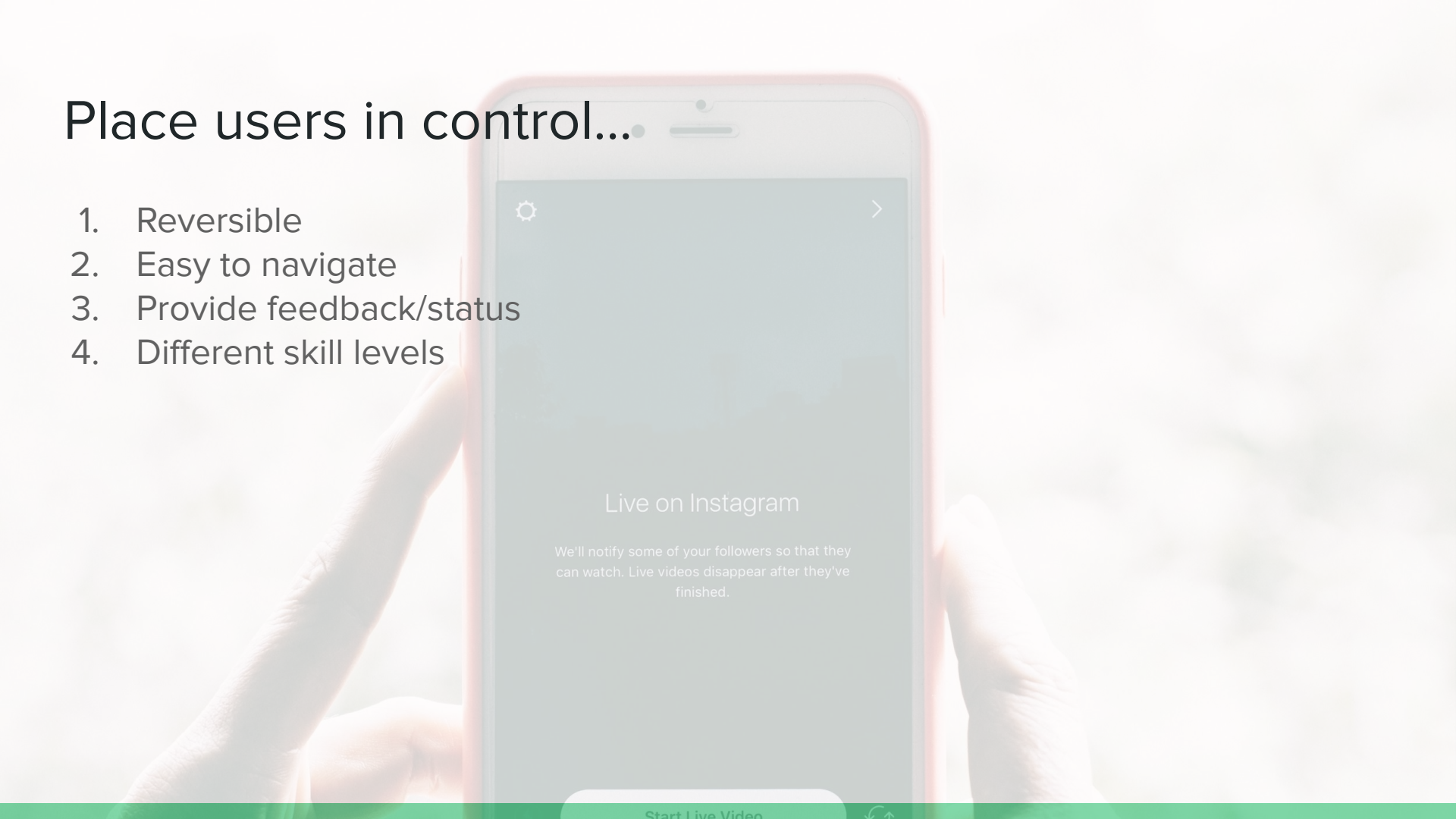
Reduce cognitive load

Make user interfaces consistent

Do those on the previous slide meet/support these rules?

Place users in control...

1. Reversible
2. Easy to navigate
3. Provide feedback/status
4. Different skill levels



Comfortable to interact...

1. Eliminate elements that don't help the customer
2. Enter data only once
3. Avoid jargon and system-oriented terms (speak the user's language)
4. Large targets for important functions (Fitts' Law)
5. Accessible interfaces
6. Real-world metaphors
7. Engineer for errors
8. Protect (save) their work

User interface design process

Use case driven, incremental and iterative process

- Examine use case and sequence diagrams
- Develop use scenarios that describe commonly employed patterns of actions. It may uncover additional requirements
- Once a basic set of use scenarios have been developed, the actual user interfaces are designed

Sound familiar at all?

User interface design process

- Designed interfaces are evaluated to determine if they are satisfactory and how they can be improved

- Interface design process is repeated in a cyclical process until no new improvements are identified.

Use scenario development

Use scenarios outline the steps performed by users to accomplish some part of their work

A use scenario is one path through an essential use case

Presented in a simple narrative description

Document the most common cases so interface designs will be easy to use for those situations

work. A use scenario is one path through an essential use case. For example, Figure 10-2 shows

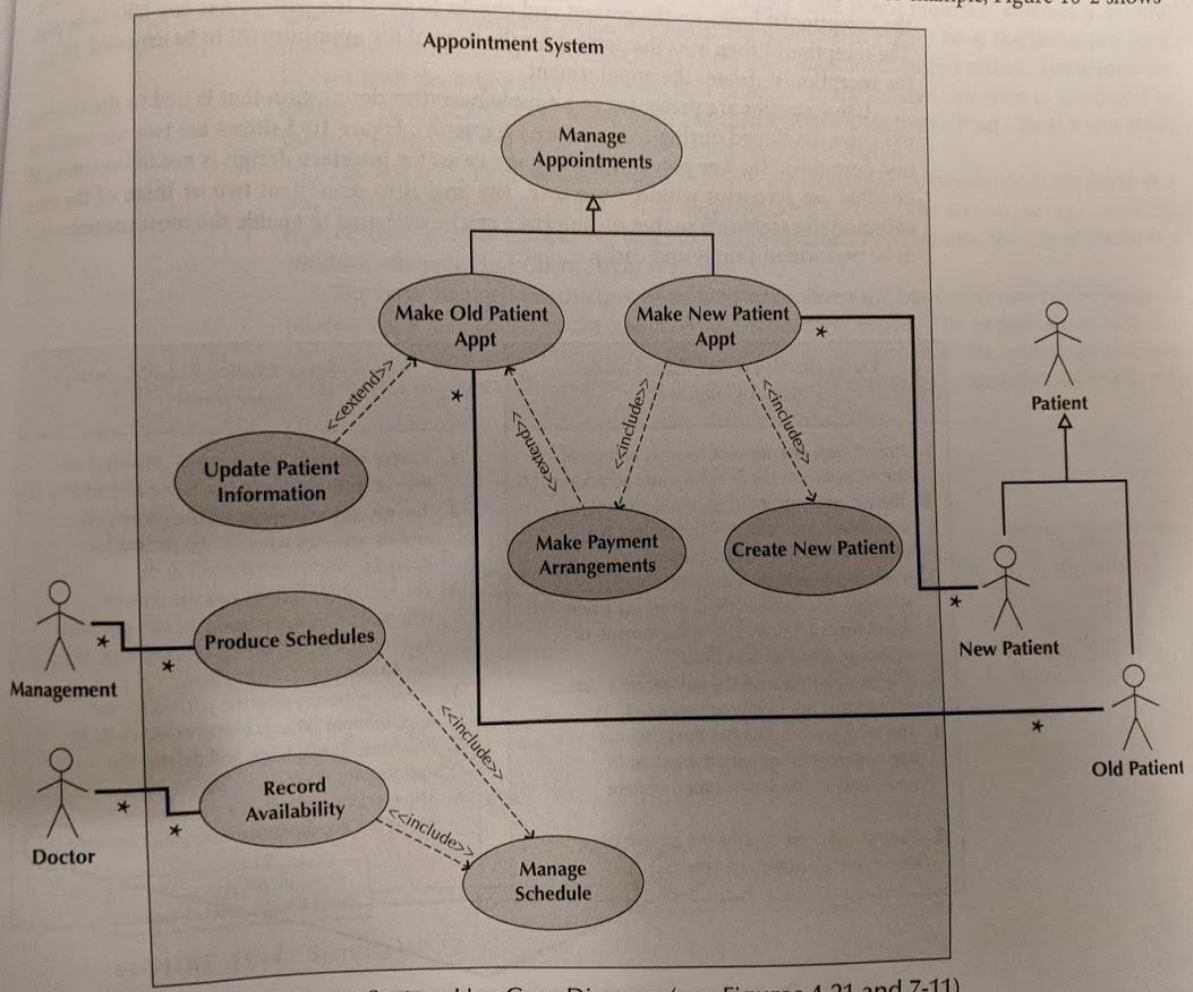


FIGURE 10-2 Appointment System Use-Case Diagram (see Figures 4-21 and 7-11)

to be performed simply and

Use scenario: Existing Patient Makes New Appointment

1. Patient requests appointment (1) and gives the receptionist his or her name and address (2).
2. The receptionist looks up the patient (3) and determines whether the patient has changed any information (3 & 4).
3. The receptionist then asks the patient whether he or she is going to set up a new appointment, change an appointment, or delete an appointment (5).
4. The receptionist asks the patient for a list of potential appointment times (S-1, 1).
5. The receptionist matches the potential appointment times with the available times and schedules the appointment (S-1, 2).
6. The receptionist informs the patient of his or her appointment time (6).

Use scenario: Existing Patient Cancels Appointment

1. Patient requests appointment (1) and gives the receptionist his or her name and address (2).
2. The receptionist looks up the patient (3) and determines whether the patient has changed any information (3 & 4).
3. The receptionist then asks the patient whether he or she is going to set up a new appointment, change an appointment, or delete an appointment (5).
4. The receptionist asks the patient for the appointment time to be canceled (S-2, 1).
5. The receptionist finds and deletes the appointment (S-2, 2).
6. The receptionist informs the patient that his or her appointment time was canceled (6).

The numbers in parentheses refer to specific events in the essential use case.

FIGURE 10-3 Use Scenarios

Nav. structure

The navigation structure defines

- The basic components of the interface
- How they work together to provide functionality to users

Windows Navigation Diagrams (WND)

- Similar to a behavioral state machine
- Shows the relationship between all screens, forms, and reports used by the system
- Shows how the user moves from one to another
- Boxes represent components
- Arrows represent transitions from and to a calling state

Windows nav. diagrams

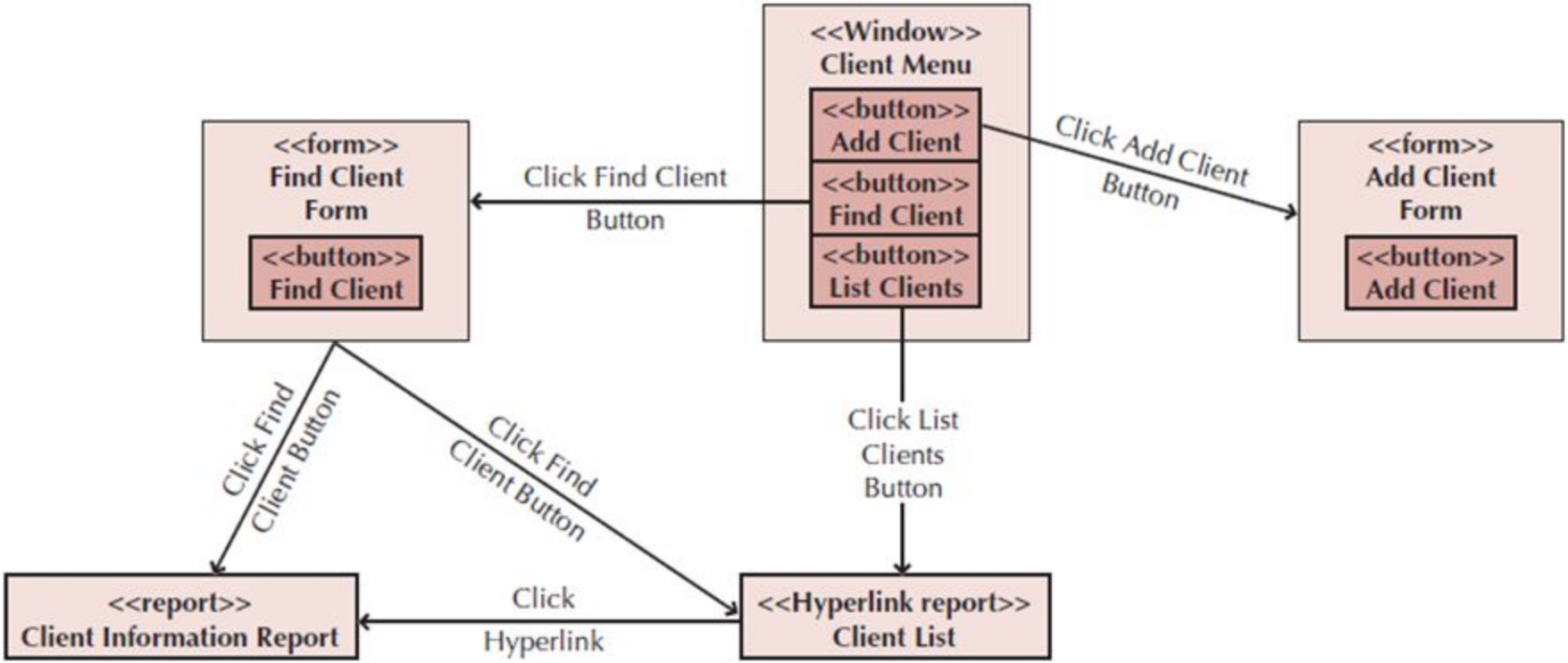
Like a state diagram for the user interface

Boxes represent components

- Window
- Form
- Report
- Button

Arrows represent transitions

- Single arrow indicates no return to the calling state
- Double arrow represents a required return
- Stereotypes show interface type


<<Window>>
Client Menu
<<button>>
Add Client
<<button>>
Find Client
<<button>>
List Clients
Click Find Client
Button
Click Add Client
Button
<<form>>
Find Client
Form
<<button>>
Find Client
<<form>>
Add Client
Form
<<button>>
Add Client
Click Find
Client Button
Click Find
Client Button
Click List
Clients
Button
<<report>>
Client Information Report
Click
Hyperlink
<<Hyperlink report>>
Client List

10 minutes effort GO NOW MAKE A WND

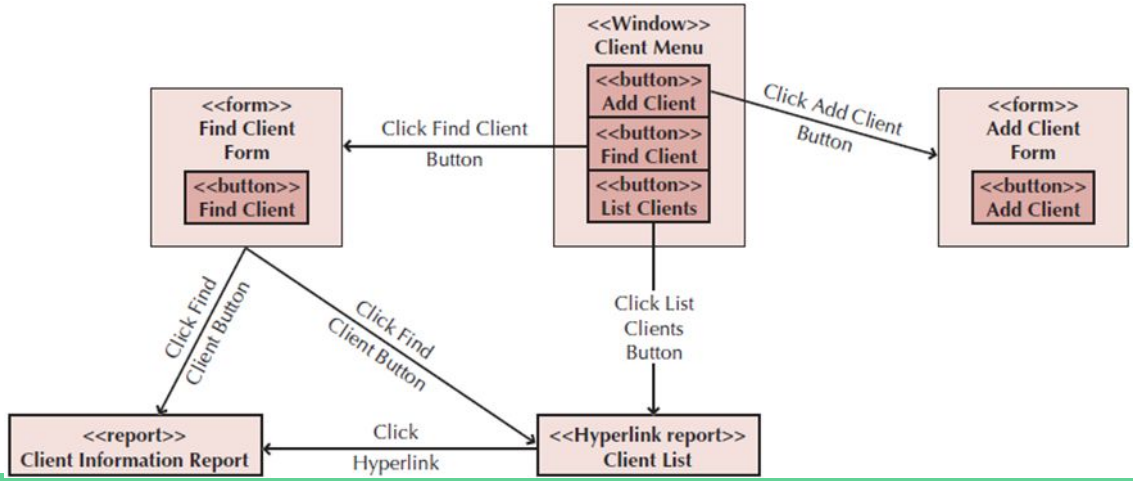
What does your interface look like? What are the pieces?

- Remember user interfaces can be console-based as well...

Provide at least **three** stereotypes (the things in << ... >>)
and their connections

~~(Check it into your team GH repo under artifacts/hci)~~

~~(Copy/paste the commit ID into blackboard)~~



Interface standards design

Interface standards are basic design elements found across the system user interface

Standards are needed for:

- Interface metaphor: defines how an interface will work (e.g., the shopping cart to store items selected for purchase)
- Interface objects
- Interface actions
- Interface icons
- Interface templates

Interface design prototyping

Mock-ups or simulations of computer screens, forms, and reports

Four common approaches (listed in increasing detail)

- Storyboard: hand drawn pictures of what the screens will look like
- Windows layout diagram: a computer generated storyboard that more closely resembles the actual interface
- HTML prototype: web pages linked with hypertext
- Language prototype: more sophisticated than HTML
  - Built in the programming language with no real functionality
  - User does not have to guess about the final appearance of the screen

Interface evaluation

Goal is to understand how to improve the interface design before the system is complete

Have as many people as possible evaluate the interface

Ideally, interface evaluation is done while the system is being designed—before it is built

- Help identify and correct problems early
- Designs will likely go through several changes after the users see it for the first time

Approaches to UI evaluation

Heuristic

- Compare the design to known principles or rules of thumb

Walkthrough evaluation

- Design team presents prototype to the users & explains how it works

Interactive

- Users work with the prototype with a project team member

Formal Usability Testing

- Performed in labs with users on a language prototype

Common sense approach

Users should not have to think about how to navigate the user interface

The number of clicks should:

- Relate to the complexity of the task
- Should be unambiguous

Minimize the number of words on the screen

Navigation design

The component that enables the user to navigate through the system

Also provides messages of success or failure of actions performed

Make it simple so that the user never really notices

Basic principles:

- Prevent the user from making mistakes
- Simplify recovery for the user when mistakes are made
- Use a consistent grammar order (e.g., File ► Open vs. Open ► File)

Types of navigation controls

Language

- Command language—user types in a command to be executed
- Natural language—system interprets the user's language

Menus

- User is presented a list of choices
- Comes in different forms (e.g., menu bars, popups, drop downs)

Direct manipulation (e.g., drag and drop)

Voice recognition systems

Messages

How the system informs the user of the status of an interaction

- Error messages
  - User did something that is not permitted
- Confirmation messages (e.g., “Are you sure?”)
- Acknowledgment messages (e.g., “Order entered”)
- Delay messages
  - Provides feedback to the user that the process is running
- Help messages
  - Provides additional information about the system to assist the user in performing a task

Navigation design document

Handled with WNDs and **real** use-cases

Real use-cases are **implementation dependent**

- Detailed description of how to use the implemented system
- Essential use-cases evolve into real use cases by specifying them in terms of the actual user interface
- For multi platform applications, e.g., desktops, tablets, and smartphones, real use cases will need to be developed for each platform on which the use case is being deployed.

Essential versus Real Use Cases

Essential	Real
The Librarian records the call number.	The Librarian uses the laser wand to scan the bar code for the call number, which is transmitted to the computer.
The AccountHolder identifies himself to the ATM.	The AccountHolder inserts the card into the ATM card reader. He is prompted to enter his PIN (see screen shot 4), which he inputs with a numeric keypad.

Input design

Screens that are used to input data

Data can be structured or unstructured

- **Structured**: Dates, names, products, etc.
- **Unstructured**: Comments, descriptions

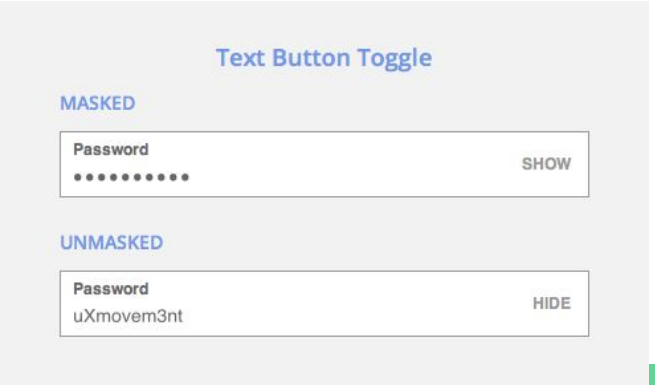
Basic principles

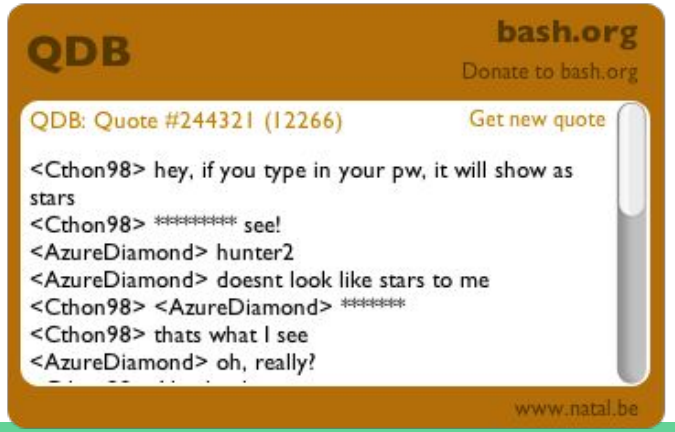
- Online vs. batch processing
- Capture data at the source (e.g., barcode vs. RFID)
- Minimize keystrokes (e.g., by using defaults for frequently used values)

Types of input

Free form controls

- **Text boxes** for alphanumeric information
- **Number boxes** with automatic formatting
  - Example: Enter a phone number as 3451236789; automatically formats as (345)-123-6789
- **Password boxes** that hide characters with stars and do not allow cutting or copying

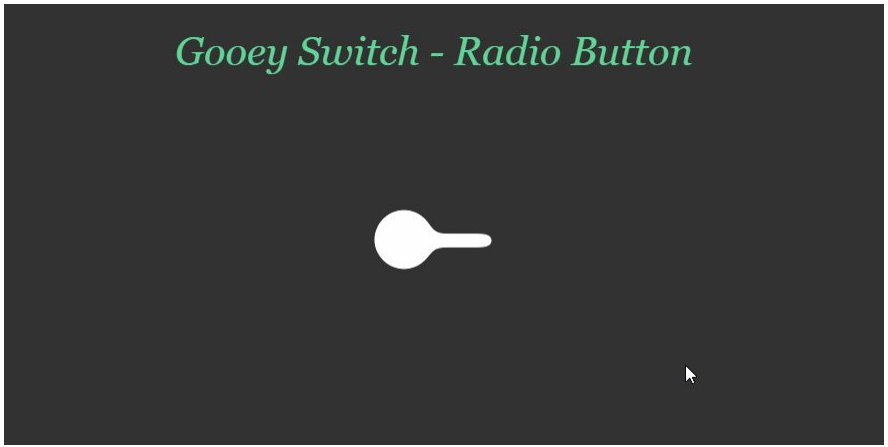




Types of input

Selection boxes

- Check boxes when several items can be selected
- Radio buttons when items are mutually exclusive
- List boxes to present a set of choices
- Sliders—a pointer that can be moved along a scale



Input validation

Data should be validated prior to entry to ensure accuracy

Do not accept invalid data (e.g., input text when a number is required)

Validation checks:

- Completeness
- Format (e.g. MM/DD/YYYY)
- Range (e.g. a number falls within a minimum and maximum value)
- Check sum digit—reduces errors in entering numbers
- Consistency—data are related
- Database check—does not violate entity or referential integrity

AND AFTER NEVER RELY ON CLIENT-SIDE VALIDATION EVER

Output design

Reports produced from the data generated by the system

Basic principles:

- Report usage **and its frequency** will affect its layout
  - **Why?**

- Manage the information load in a report
  - Provide only what is needed and place most important information near the top

- Minimize bias, especially in graphical displays (charts)

Types of output

Summary reports

- Details are aggregated (e.g., sums, averages)

Detail reports

- Users need full information

Exception reports

Turnaround documents

- Outputs turn around and become inputs

Graphs

- For easy visual comparison

Media for reports can be electronic (seen on the screen) or hard copy (printed on paper)

Usability Report

USABILITY TESTING REPORT – PRICE EXPLORER

Filter display - few noticed the filter edit button

After clicking the filter edit button, the current filters are shown in the Attribute Filter window.

But when clicking "Filter by Attribute", the current filters are not shown in the Attribute Filter window.

Editing filters

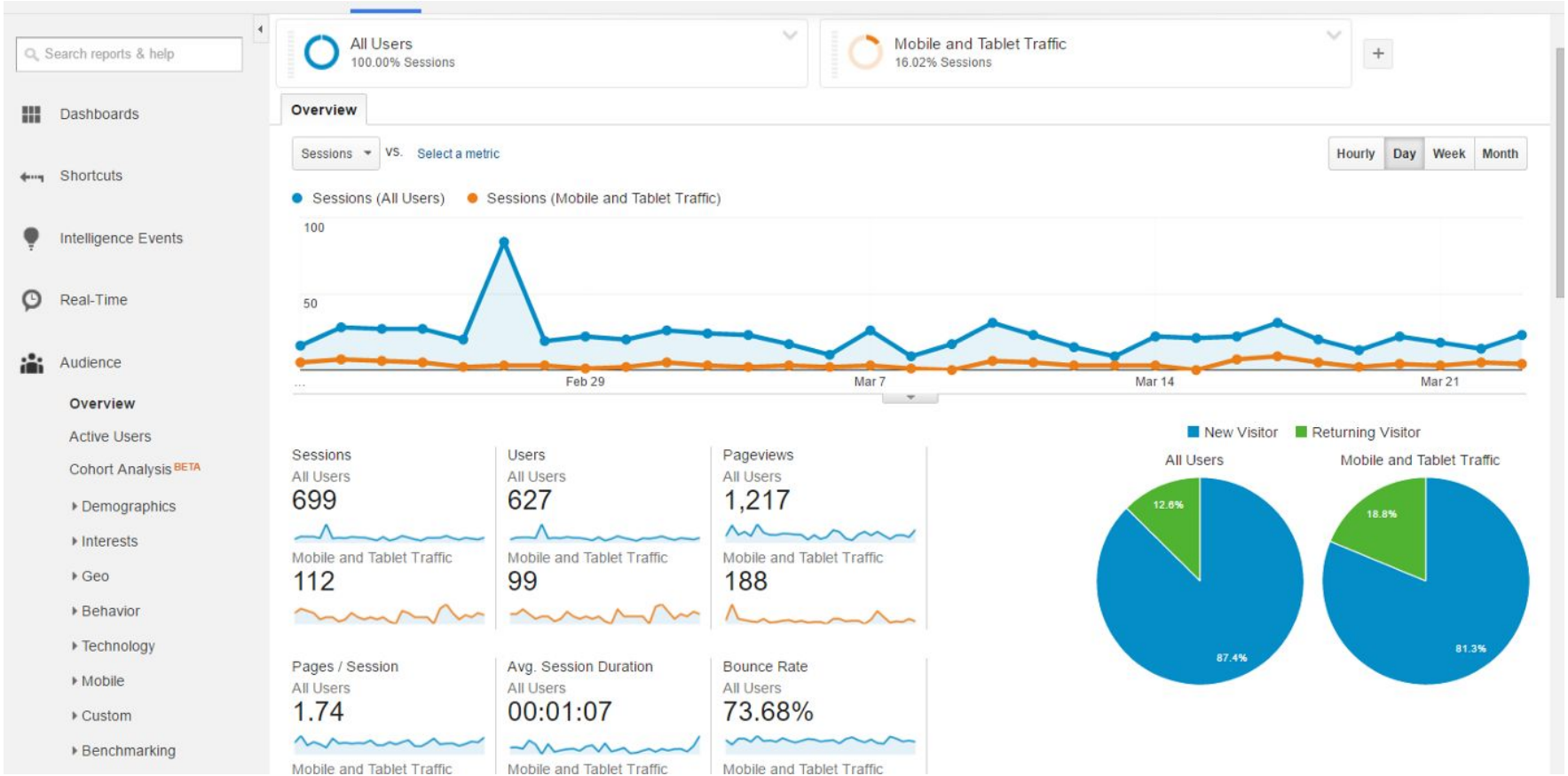
When asked to change the waterfall chart from showing Georgia Pipe to showing Liberty Plastics, only one of the participants used the filter edit button. It is the "+" icon to the left of the "x" at the top, right of the filter display area. Two tried to click directly on Georgia Pipe in the filter display area, thinking that would bring up the list of customers to choose from.

- *"I don't want to clear filters and start over. I want to just go back to the customer list.* [Tries clicking on Georgia Pipe] *And there's no back button.... It would have been easier to have a more obvious way to back up one step."*

Two participants clicked the "Filter by Attribute" link and thought that selecting Liberty Plastics would replace Georgia Pipe. After adding Liberty Plastics, they did not notice at first that Georgia Pipe was still in the filter list. That was because clicking the "Filter by Attribute" link brings up a version of the Attribute Filter window that does not show the current filters selected on the right. Clicking the filter edit link brings up the Attribute Filter window with the current filters displayed on the right side. This inconsistency can cause these types of errors.

Recommendations:

- **Open the Attribute Filter window when users double click on the items in the filter display area (e.g., Georgia Pipe).**
- **When filters are selected, clicking the "Filter by Attribute" link should open the Attribute Filter window with the current filters displayed in the "Filter Lists" box on the right side of the window (the same as it appears when the filter edit button is clicked).**



Analytics Report

Mobile computing / UI design

Smaller devices have **limited space**, **touch screens**, and **haptic feedback**

Necessitate design from the ground up

- Not simply porting a web interface already designed for a larger computer
- Why not?

Capabilities of devices varies widely and are used everywhere under highly variable conditions (ambient light and noise levels)

Suggestions for mobile

Focus on user needs, not user wants

Remove all “fluff” from big websites

Utilize the capabilities of the device (e.g., built-in GPS, accelerometers, etc.)

Make things vertically scrollable, not horizontally

Reduce interactions with the network to the extent possible

Make use of reusable patterns (e.g., vertically stacking web pages)

Designs for touchscreens (designer needs to consider tapping, pinching, spreading, flicking, scrolling (one-finger vs. two-finger), and dragging ,etc...)

Challenges

Mobile computing devices

Touchscreens

Social media

Games, gamification

Dimensional display of data (data visualization)

Immersive environments (VR)

Challenges

Multilingual environments
Cultural issues
Color
Speed of messages
Context
Time (multi-tasking, distractions, etc) – polychromic, monochromic
Cultural dimensions
Power distance
Uncertainty avoidance
Individualism v. collectivism
Masculinity v. femininity
Non-functional requirements

Mobile challenges

1. Keeping it simple but feature rich
2. Mobile Search
3. UI elements wagging the dog?
4. Avoiding fragmentation

Prototype...prototype...prototype...

Social media and UI design

Social media presents alternative opportunities and challenges

- Facebook, Twitter, Flickr™, YouTube™
- Wikis, blogs

Who is the target audience?

What is the purpose of the application? (e.g., marketing channel)

Which type of social media works best for your functional requirements?

Social media guidelines

Post and update information often

Use a combination of push and pull approaches

Keep your sites synchronized to the extent possible

Allow customers to share your content

- Provide a voting or “like” mechanism to encourage customers to become involved in your site

Social media guidelines

Design the site for longer term engagement

Build a sense of community—users “belong” to something

Take into account international and cultural issues

International/Cultural issues

Websites have a global presence

Considerations:

- Multilingual requirements
- The meaning of certain colors
- Cultural differences
  - Power distance
  - Uncertainty avoidance
  - Individualism vs. collectivism

Let's talk non-functional requirements

What do you think some NFRs could be that can impact HCI?

Non-functional requirements

Operational Requirements—choice of hardware and software platforms

- Technologies that can be used (e.g. GUI, 2 or 3 button mouse)

Performance Requirements

- Mobile computing and web browsing inject additional performance obstacles

Security Requirements

- Appropriate log on controls and possibly encryption
- Wireless networks are especially vulnerable

Political & Cultural Requirements

- Date formats, colors, and currencies

Let's dip back into UX

User experience design

“...we should make sure that the people designing a product are not the same people building it. Even with appropriate skills and the best intentions, it simply isn’t possible for a developer (or anyone, for that matter) to advocate effectively for the user, the business, and the technology all at the same time.”

UX design

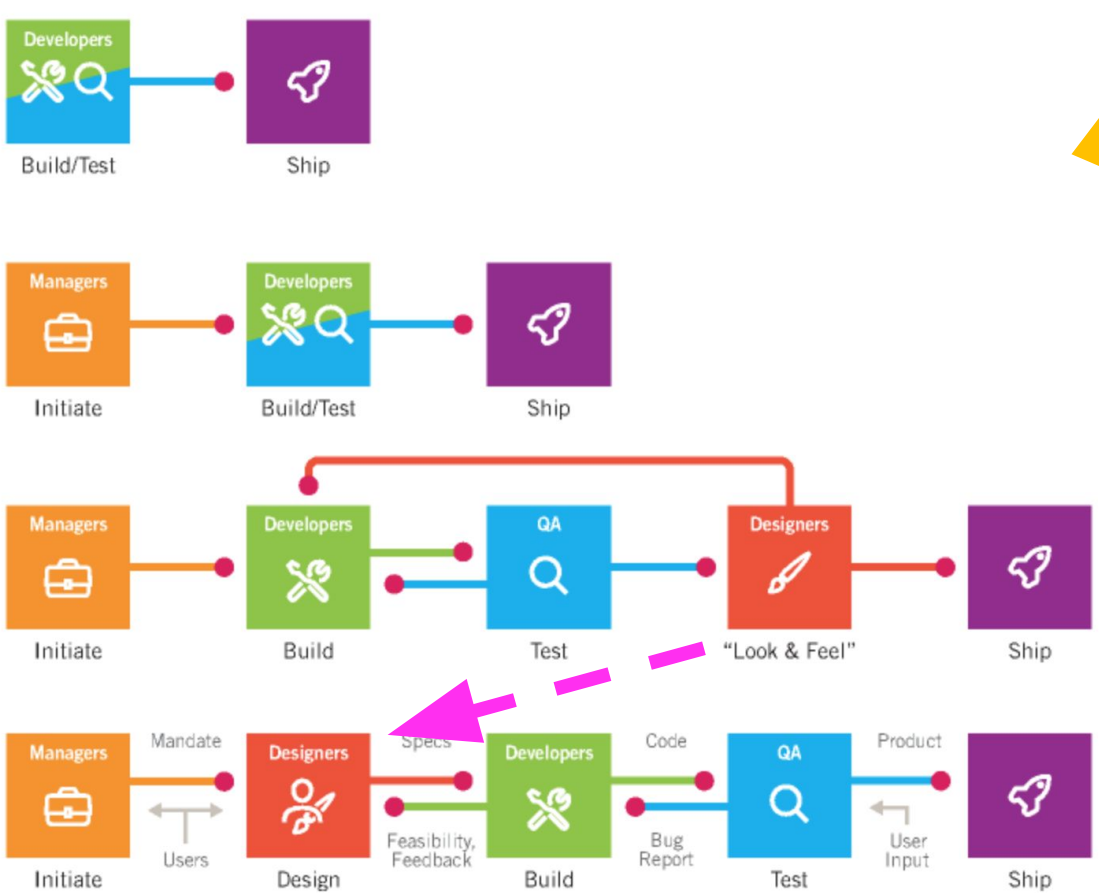
Digital products - philosophy

- are rude
- require people to think like computers
- have sloppy habits (a 10-year old boy)
- require humans to do heavy lifting

WHY?

- Misplaced priorities
- Ignorance about real users
- Conflicts of interest (design and build the UX?)
- Lack of a design process (for collecting and analyzing user goals, needs, motivations)

UX and the SDLC

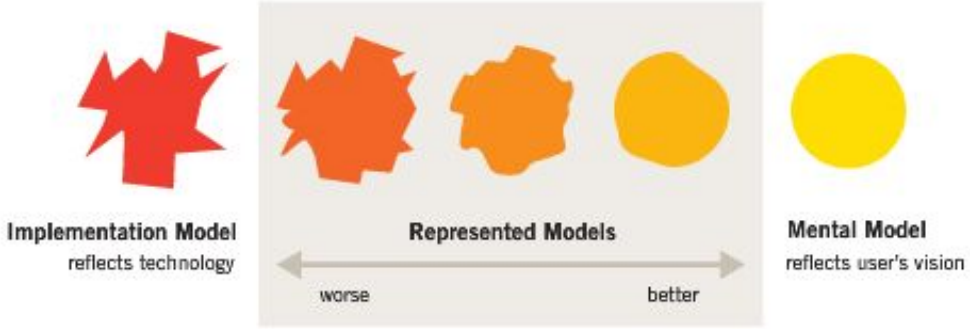


Moving design up front!

Figure 1-2: The evolution of the software development process. The first diagram depicts the early days of the software industry, when smart developers dreamed up products and then built and tested

User focused (flipping the thought process)

Computer Literacy: a euphemism for forcing human beings to stretch their thinking to understand the inner workings of application logic, rather than having software enabled products stretch to meet people's usual ways of thinking.



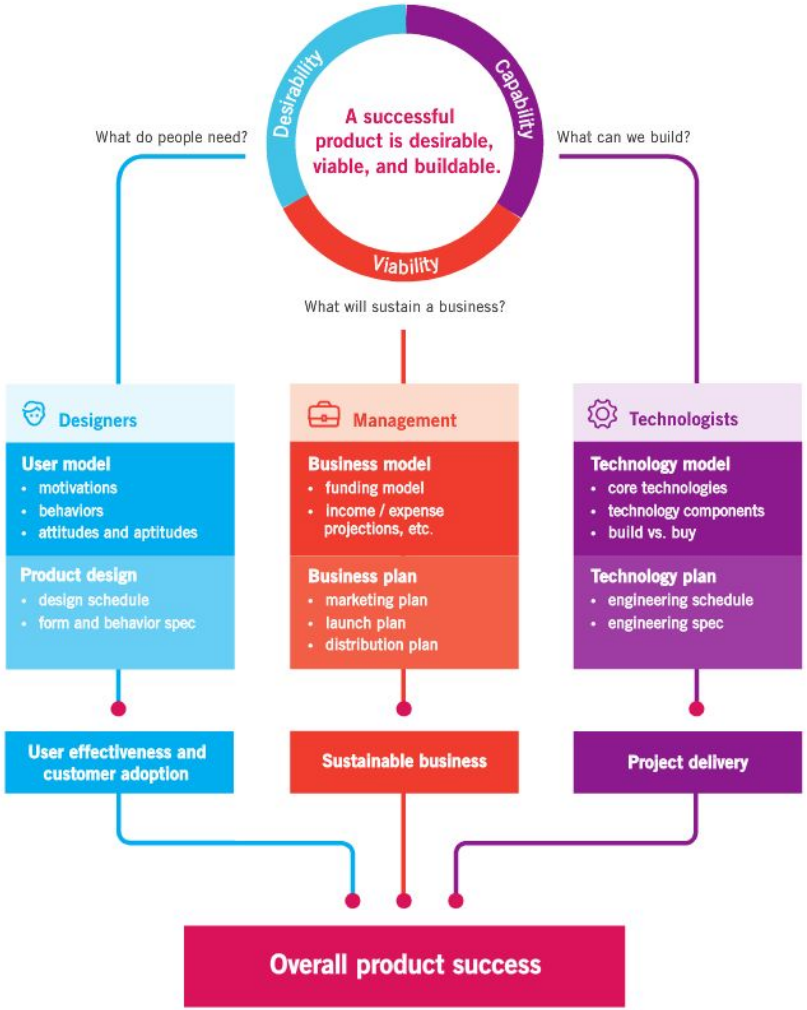
Goal-driven development

GOALS????

➔ “an expectation of an end condition”

Goal-driven development:

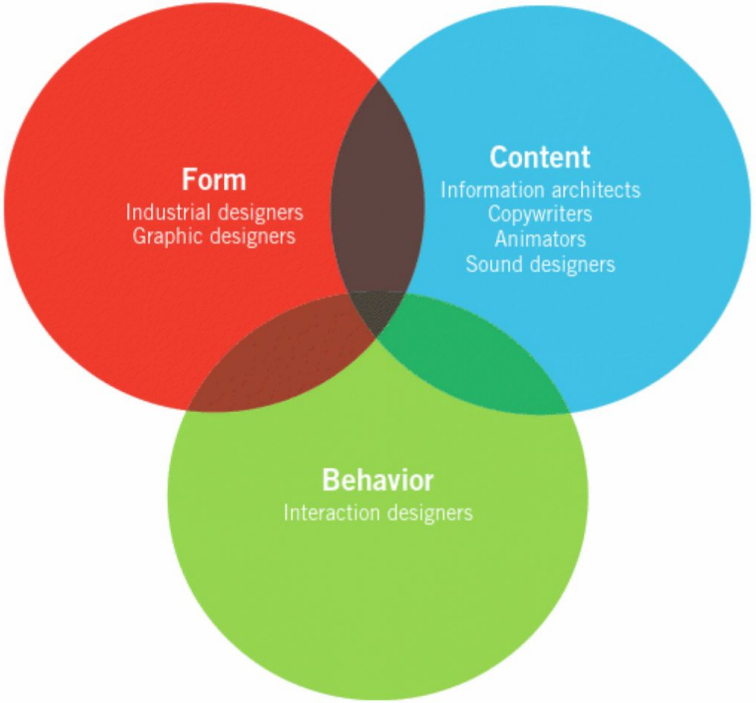
- What is it?



Learn your users' goals and design to deliver them.

UX → "Interaction design"

- Understanding the desires, needs, motivations, and contexts of people using products
- Understanding business, technical, and domain opportunities, requirements, and constraints
- Using this knowledge as a foundation for plans to create products whose form, content, and behavior are useful, usable, and desirable, as well as economically viable and technically feasible



Cooper, Alan, et al. About Face : The Essentials of Interaction Design, John Wiley & Sons, Incorporated, 2014. ProQuest Ebook Central, http://ebookcentral.proquest.com/lib/gvsu/detail.action?docID=1762072.
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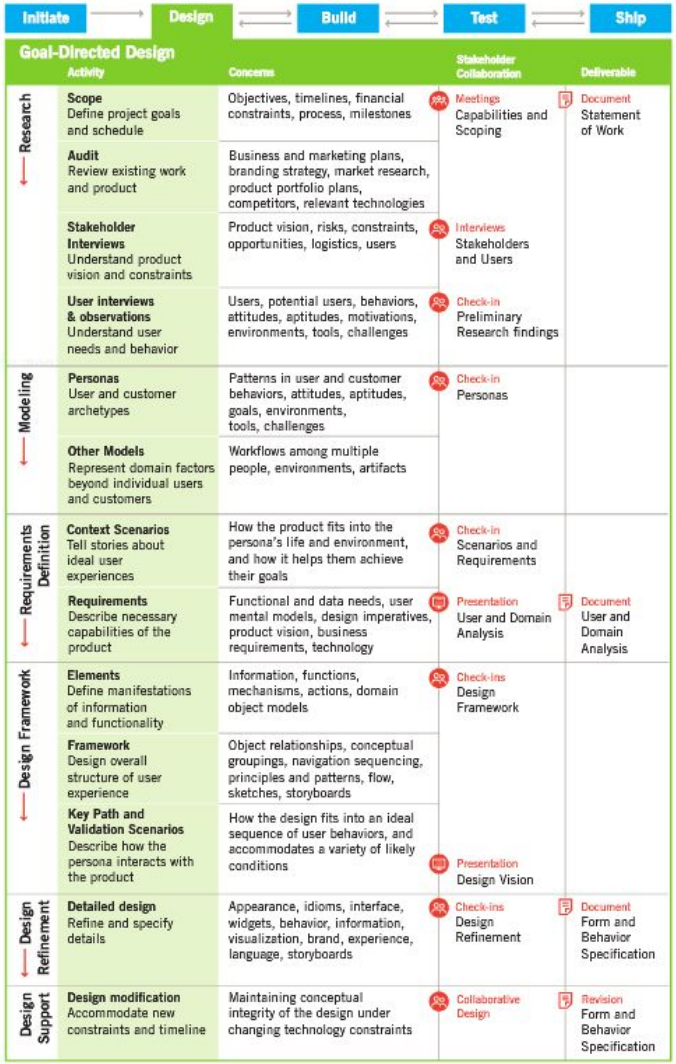
How do we understand the user?



Goal-Directed Design

	Activity	Concerns	Stakeholder Collaboration	Deliverable
Research	**Scope** Define project goals and schedule	Objectives, timelines, financial constraints, process, milestones	Meetings Capabilities and Scoping	Document Statement of Work
	Audit Review existing work and product	Business and marketing plans, branding strategy, market research, product portfolio plans, competitors, relevant technologies		
	Stakeholder Interviews Understand product vision and constraints	Product vision, risks, constraints, opportunities, logistics, users	Interviews Stakeholders and Users	
	User interviews & observations Understand user needs and behavior	Users, potential users, behaviors, attitudes, aptitudes, motivations, environments, tools, challenges	Check-in Preliminary Research findings	
Modeling	**Personas** User and customer archetypes	Patterns in user and customer behaviors, attitudes, aptitudes, goals, environments, tools, challenges	Check-in Personas	
	Other Models Represent domain factors beyond individual users and customers	Workflows among multiple people, environments, artifacts		

Requirements Definition	**Context Scenarios** Tell stories about ideal user experiences	How the product fits into the persona's life and environment, and how it helps them achieve their goals	Check-in Scenarios and Requirements	
	Requirements Describe necessary capabilities of the product	Functional and data needs, user mental models, design imperatives, product vision, business requirements, technology	Presentation User and Domain Analysis	Document User and Domain Analysis
Design Framework	**Elements** Define manifestations of information and functionality	Information, functions, mechanisms, actions, domain object models	Check-ins Design Framework	
	Framework Design overall structure of user experience	Object relationships, conceptual groupings, navigation sequencing, principles and patterns, flow, sketches, storyboards		
	Key Path and Validation Scenarios Describe how the persona interacts with the product	How the design fits into an ideal sequence of user behaviors, and accommodates a variety of likely conditions	Presentation Design Vision	
Design Refinement	**Detailed design** Refine and specify details	Appearance, idioms, interface, widgets, behavior, information, visualization, brand, experience, language, storyboards	Check-ins Design Refinement	Document Form and Behavior Specification
Design Support	**Design modification** Accommodate new constraints and timeline	Maintaining conceptual integrity of the design under changing technology constraints	Collaborative Design	Revision Form and Behavior Specification

Interaction design is **not guesswork**

Who are my users?

What are my users trying to accomplish?

How do my users think about what they’re trying to accomplish?

What kind of experiences do my users find appealing and rewarding?

How should my product behave?

What form should my product take?

Interaction design is **not guesswork**

How will users interact with my product?

How can my product's functions be most effectively organized?

How will my product introduce itself to first-time users?

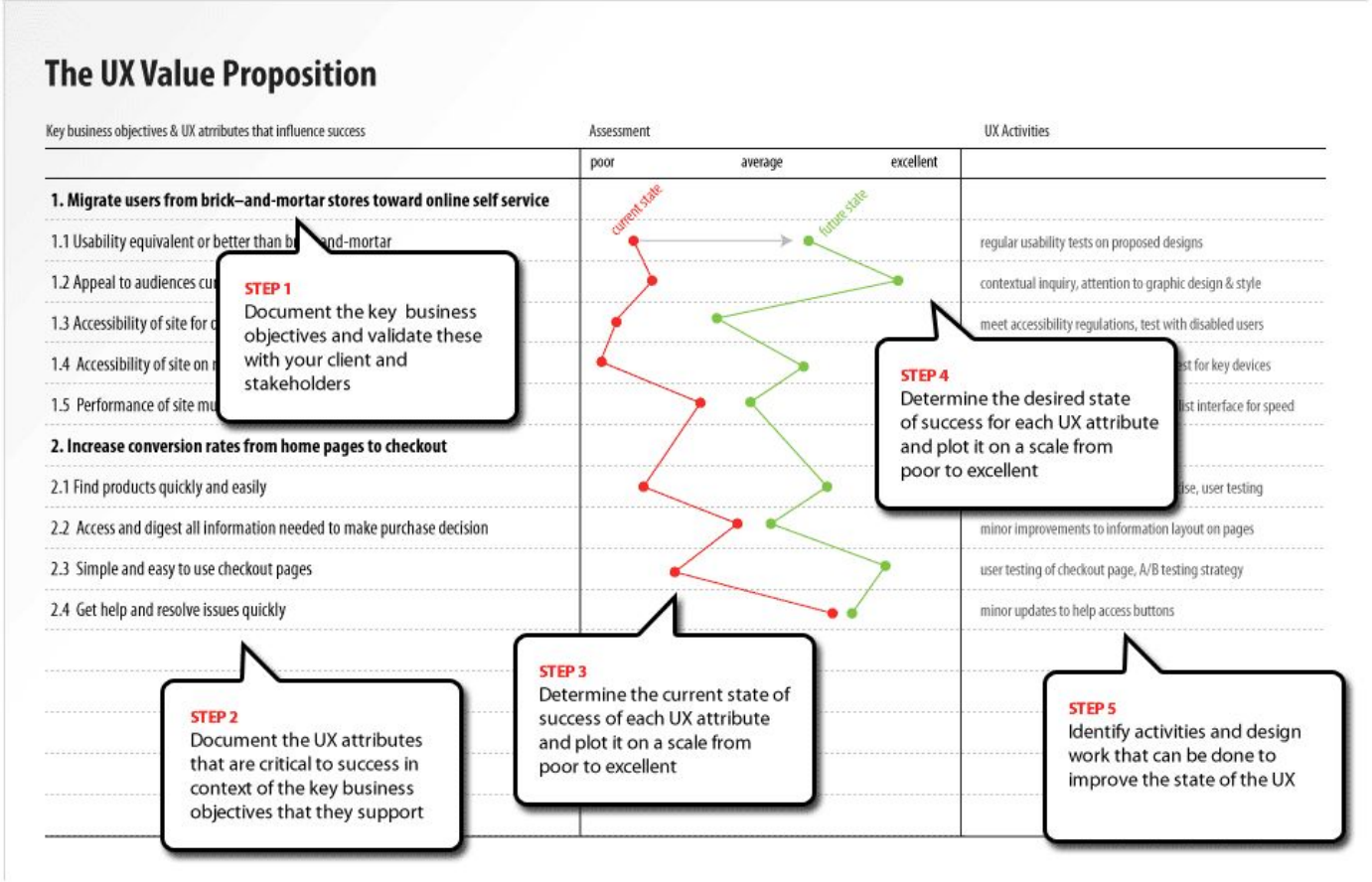
How can my product put an understandable, appealing, and controllable face on technology?

How can my product deal with problems that users encounter?

How will my product help infrequent and inexperienced users understand how to accomplish their goals?

How can my product provide sufficient depth and power for expert users?

Another Value-Driven Approach?



https://youtu.be/ReM1ugmVfP0

Value proposition canvas

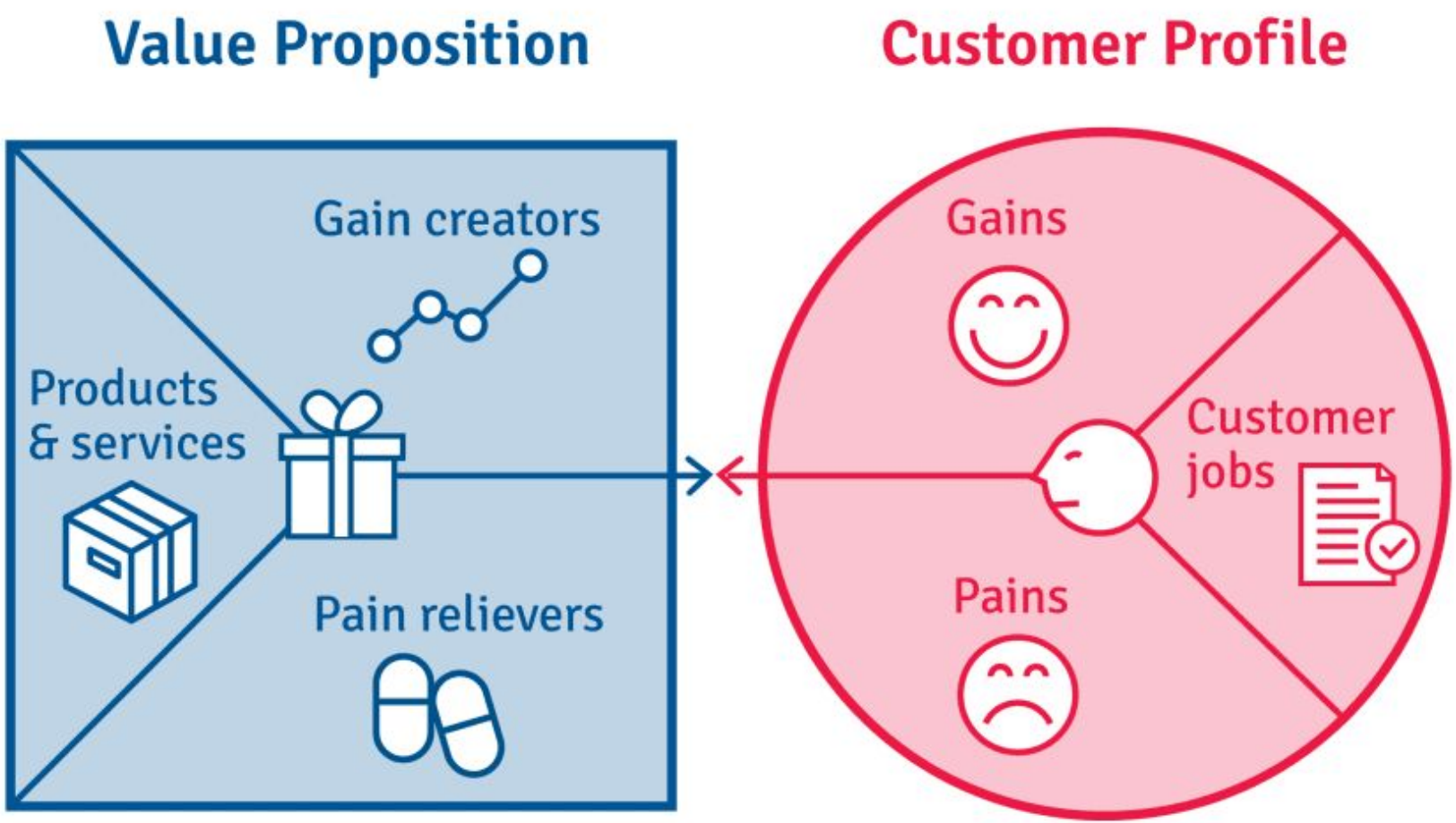
Customer profile

- Jobs (customer is trying to get done)
  - Functional/Social/Emotional
- Pains (negative outcomes to avoid)
- Gains (positive outcomes to achieve)

Value Profile

- Gain Creators (how do they produce/increase/maximize outcomes/benefits)
- Products and Services
- Pain Relievers (how do they eliminate reduce customer pain?)

Highlight areas of focus


Value Proposition
Customer Profile
Gain creators
Products
& services
Pain relievers
Gains
Customer
jobs
Pains

Value Proposition Canvas for Pilot Angels (handout)

Customer profile

- Jobs (customer is trying to get done)
  - Functional/Social/Emotional
- Pains (negative outcomes to avoid)
- Gains (positive outcomes to achieve)

Value Profile

- Gain Creators (how do they produce/increase/maximize outcomes/benefits)
- Products and Services
- Pain Relievers (how do they eliminate reduce customer pain?)

Highlight areas of focus.

One List of UX Deliverables

User Research:

- Personas
- User Flow
- Experience Maps
- Use Cases
- Storyboards

Design:

- Moodboards
- Sketches
- Wireframes
- Prototypes

Market Research:

- Competitive Analysis Reports

Testing:

- Surveys
- Usability report
- Analytics reports

https://uxplanet.org/a-complete-list-of-ux-deliverables-d62ccf1de434

Personas

Clark Andrews

AGE 26
OCCUPATION Software Developer
STATUS Single
LOCATION San Jose, CA
TIER Experiment Hacker
ARCHETYPE The Computer Nerd

Friendly | Clever | Go-Getter

"I feel like there's a smarter way for me to transition into a healthier lifestyle."

Motivations

- Incentive
- Fear
- Achievement
- Growth
- Power
- Social

Goals

- To cut down on unhealthy eating and drinking habits
- To measure multiple aspects of life more scientifically
- To set goals and see and make positive impacts on his life

Frustrations

- Unfamiliar with wearable technology
- Saturated tracking market
- Manual tracking is too time consuming

Bio

Aaron is a systems software developer, a "data junkie" and for the past couple years, has been very interested in tracking aspects of his health and performance. Aaron wants to track his mood, happiness, sleep quality and how his eating and exercise habits affects his well being. Although he only drinks occasionally with friends on the weekend, he would like to cut down on alcohol intake.

Personality

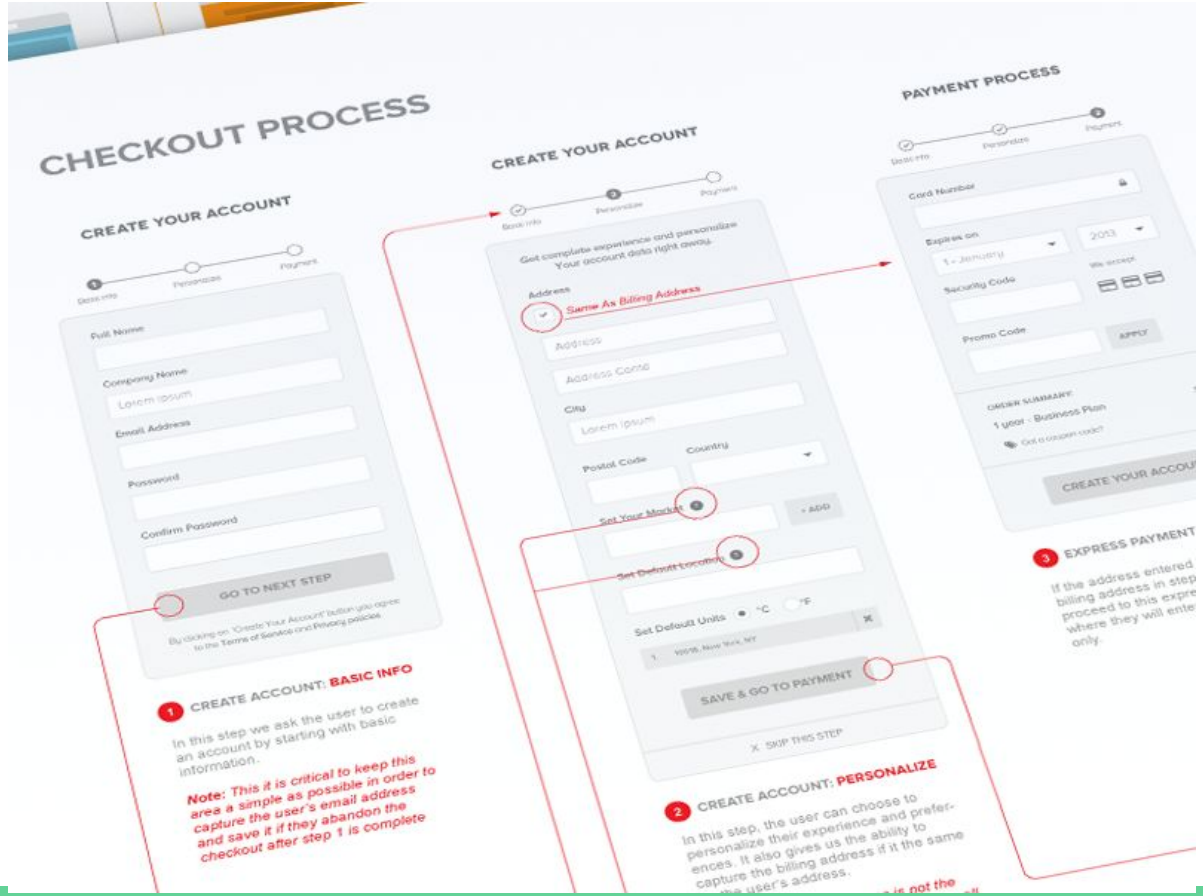
Extrovert — Introvert
Sensing — Intuition
Thinking — Feeling
Judging — Perceiving

Technology

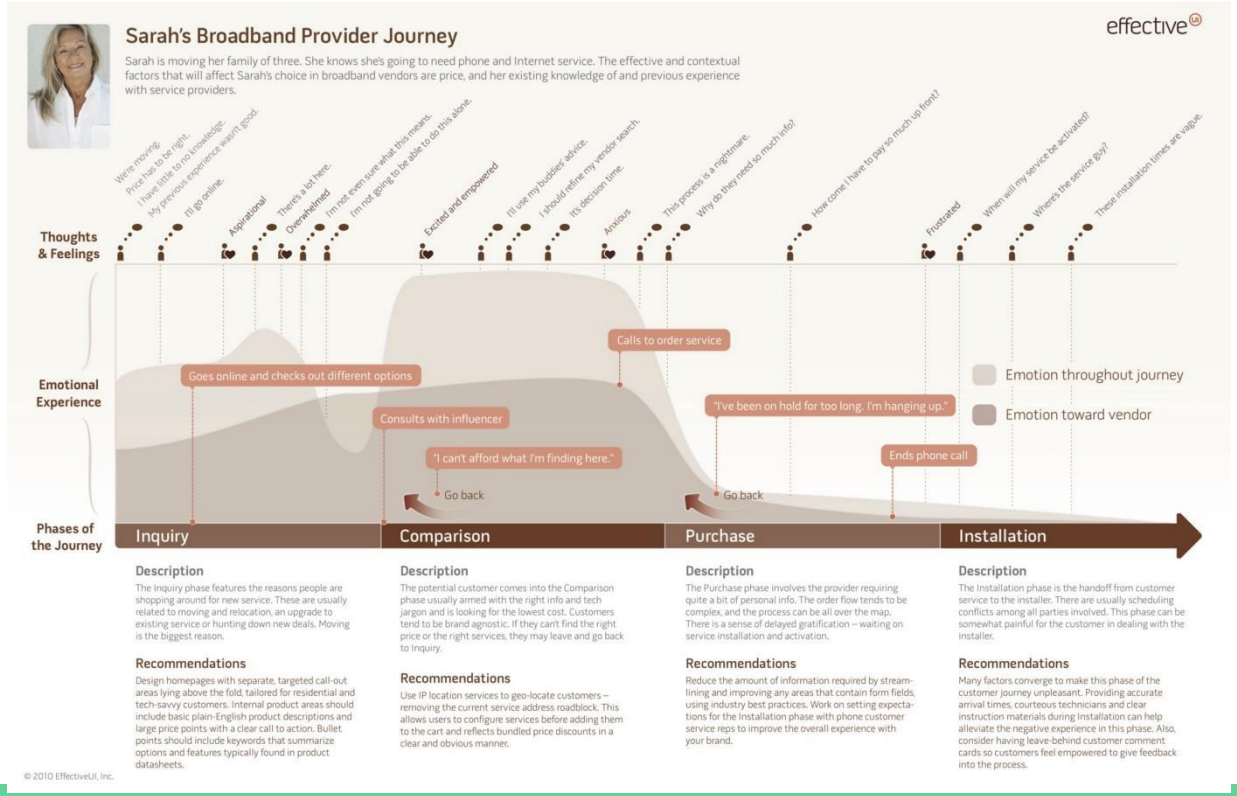
IT & Internet
Software
Mobile Apps
Social Networks

Brands

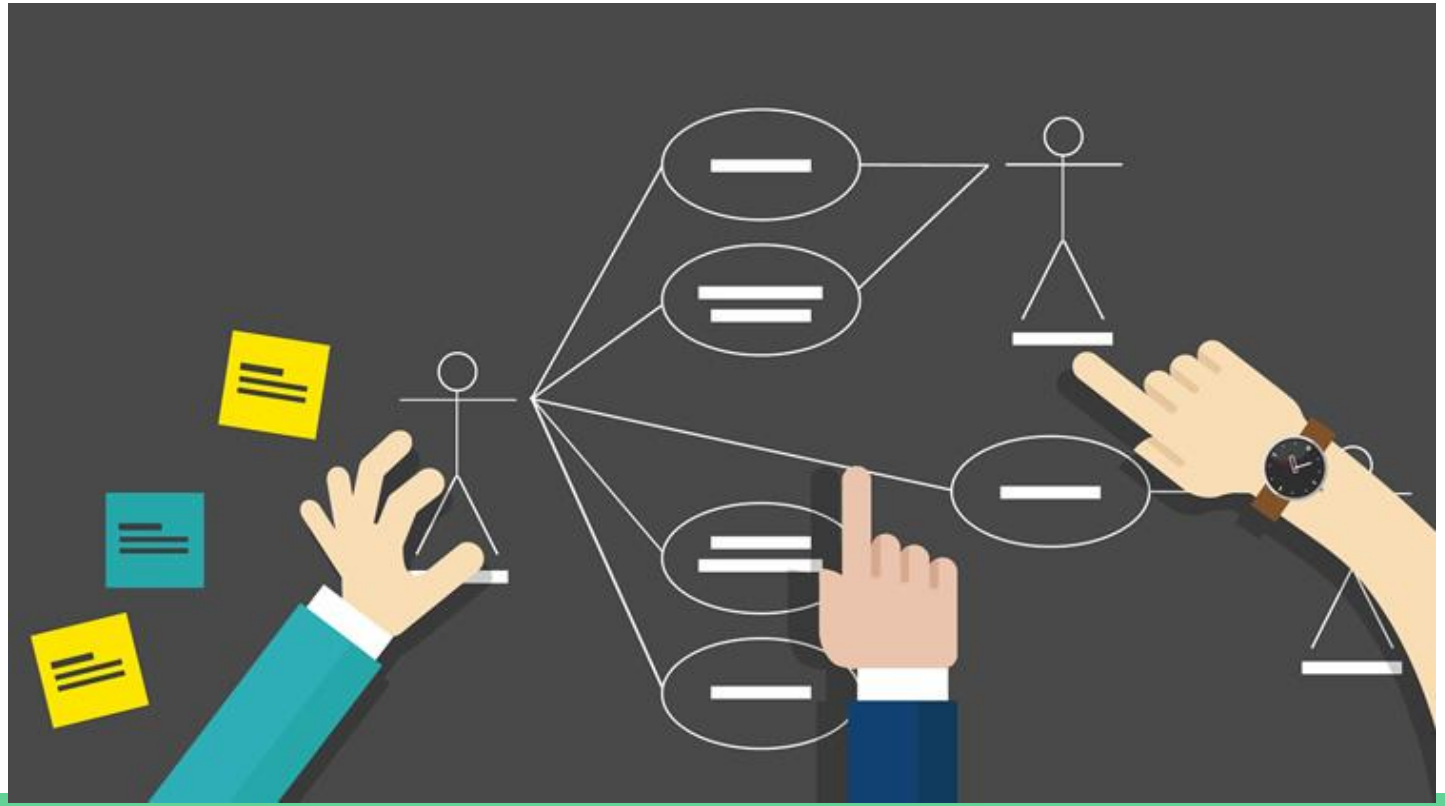
User flow


CHECKOUT PROCESS
CREATE YOUR ACCOUNT
Basic Info
Personalize
Payment
Full Name
Company Name
Lorem ipsum
Email Address
Password
Confirm Password
GO TO NEXT STEP
By clicking on 'Create Your Account' button you agree to the Terms of Service and Privacy policies
1 CREATE ACCOUNT: BASIC INFO
In this step we ask the user to create an account by starting with basic information.
Note: This it is critical to keep this area a simple as possible in order to capture the user's email address and save it if they abandon the checkout after step 1 is complete
CREATE YOUR ACCOUNT
Get complete experience and personalize Your account data right away.
Address
Same As Billing Address
Address
Address Cont
City
Lorem ipsum
Postal Code
Country
Set Your Market
+ ADD
Set Default Location
Set Default Units
°C
°F
SAVE & GO TO PAYMENT
SKIP THIS STEP
2 CREATE ACCOUNT: PERSONALIZE
In this step, the user can choose to personalize their experience and preferences. It also gives us the ability to capture the billing address if it the same
PAYMENT PROCESS
Card Number
Expires on
Security Code
Promo Code
APPLY
ORDER SUMMARY
1 year - Business Plan
3 EXPRESS PAYMENT
If the address entered
billing address in step
proceed to this expre
where they will ente
only

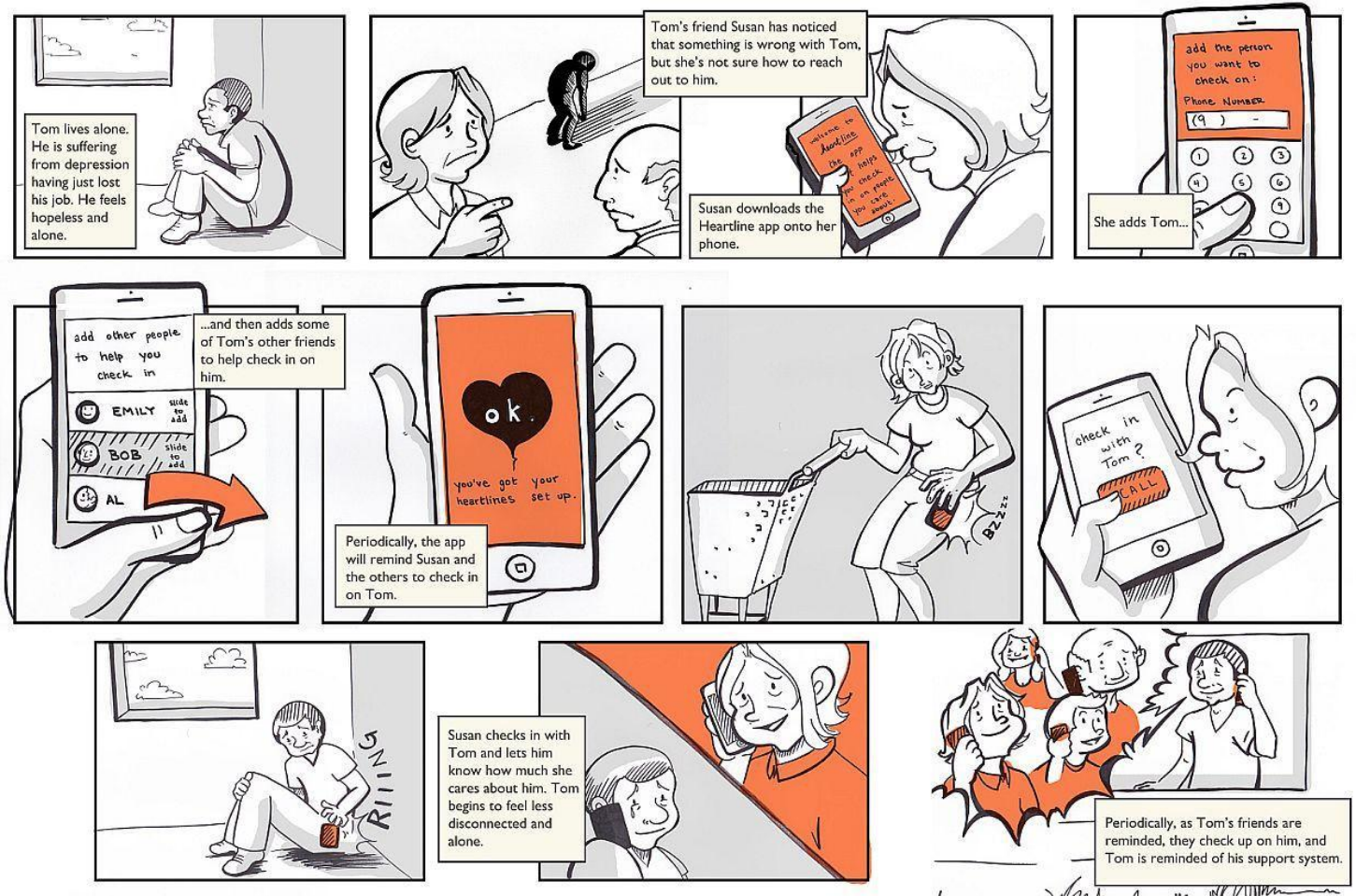
User experience maps



User cases



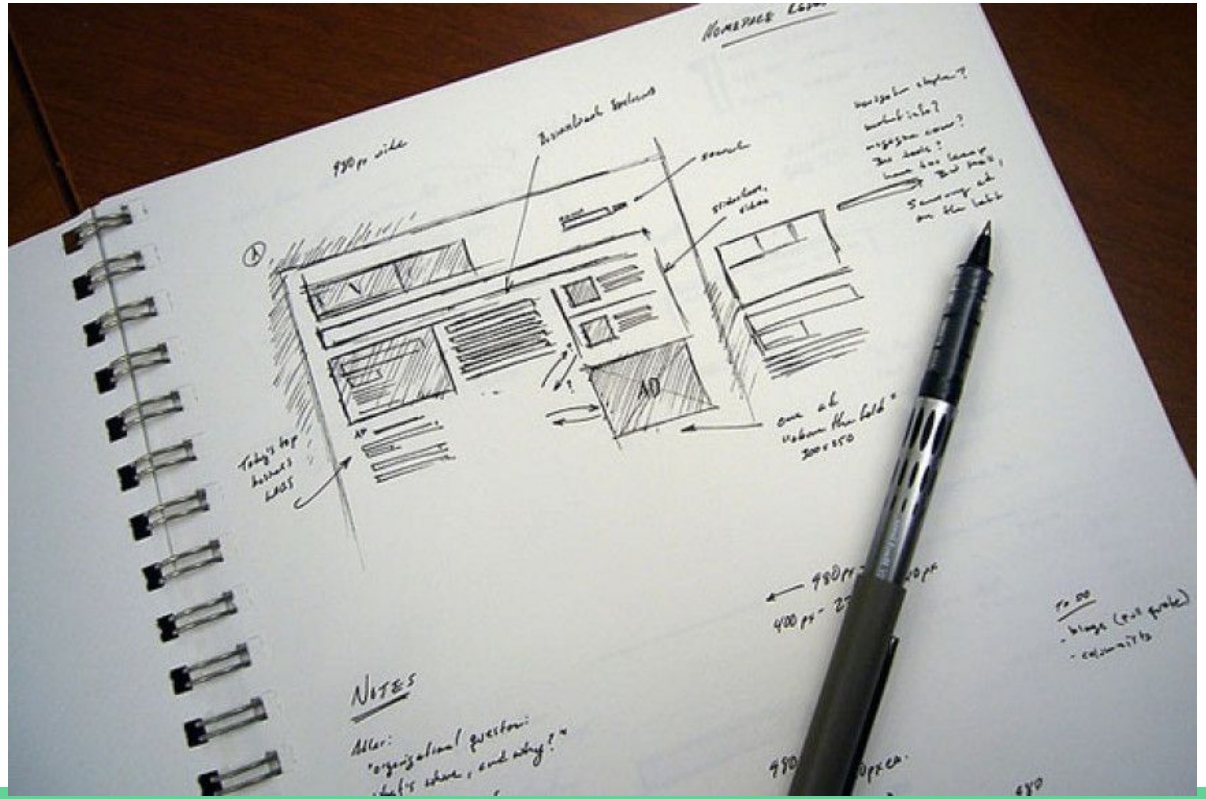
Storyboards



Moodboards

(Trying to define a style)

Sketches (quick visuals)



Wireframes

Page structures
Hierarchies
Key elements

https://youtu.be/8-vTd7GRk-w

Prototypes

This one is done in Adobe XD