Information Gathering: Interactive Methods
CSE 4407

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Interviewing: The Art of Conversation for Requirements

- **What:** An interview is a **directed conversation** with a specific purpose, using a question-and-answer format
- **Goal:** Understand user perspectives on
  - Current system state (What works? What doesn't?)
  - Organizational and personal goals (Where do they want to go?)
  - Informal procedures (How things *really* get done?)
  - Human-Computer Interaction (HCI) concerns (Usability, Ergonomics, Enjoyment!)
- Focus on **Opinions** and **Feelings**, not just facts
  - Example: "Returns are too high!" (Opinion) vs. "We average 10 returns/week." (Fact)
  - Opinions reveal perceived problems!
- **Uncover Goals:** Facts show the past, goals project the future
- It's about building **trust** and **understanding** quickly while maintaining control

Step Zero: Interview Yourself!

- Beware: Recognize your **biases**
  - Education, background, emotions, ethics – they all filter what you hear
  - Be aware of potential implicit biases (though fixing them is complex!) [1], [2]
- Visualize the interview
  - *Why* are you going? (Objective)
  - *What* will you ask? (Key Questions)
  - *What* does success look like? (Desired Outcome)
  - *How* can you make it valuable for the *interviewee* too?
- Preparation builds confidence and shows respect for the interviewee's time

Your Pre-Interview Checklist

- Steps of Interview Preparation
    1. Read Background Material
    2. Establish Interviewing Objectives
    3. Decide Whom to Interview
    4. Prepare the Interviewee
    5. Decide on Question Types and Structure

Laying the Groundwork: Research and Objectives

- **Step 1: Read Background Material**
  - ○ Sources: Company website, annual reports, newsletters, internal documents, news articles, Standard and Poor's
  - ○ Goal 1: Understand the organization and its **language** (Use their jargon!)
  - ○ Goal 2: Maximize interview time - don't ask what you can easily look up!
- **Step 2: Establish Interviewing Objectives**
  - ○ Based on background research and project goals
  - ○ Identify 4-6 **key areas** to explore (e.g., information processing, decision-making, HCI concerns)
  - ○ HCI Concerns: Usefulness, usability, ergonomics, cognitive fit, engagement, rewards
  - ○ DBMS Perspective: Interviews help define data requirements, user roles, and access needs

Selecting Participants and Setting the Stage

- **Step 3: Decide Whom to Interview**
  - Include key people at **all levels** affected by the system
  - Aim for balance to capture diverse perspectives
  - Consult your primary contact within the organization for suggestions
- **Step 4: Prepare the Interviewee**
  - Inform them in advance! (Call or email) $\rightarrow$ Give them time to think
  - Consider sending key questions beforehand for complex topics
  - Location/Format: In-person is often best, BUT...
  - Online Interviews: Zoom, Teams, Meet are common $\rightarrow$ Be mindful of "Zoom Fatigue"! [3]
  - Time Limit: Keep interviews to **45-60 minutes MAX** $\rightarrow$ Respect their time (and energy!)

Step 5: Planning Your Questions: Types and Flow

- The **heart** of the interview is effective questioning
- Two basic **Question Types**
  - Open-Ended (Invites broad answers)
  - Closed (Limits answers)
  - (We'll also cover Probes - the follow-up questions)
- Three basic **Interview Structures** (Flow)
  - Pyramid (Specific → General)
  - Funnel (General → Specific)
  - Diamond (Specific → General → Specific)
- Choosing the right type and structure depends on the *goal* and the *interviewee*

Open-Ended Questions: Inviting Conversation

- **What:** Allows the interviewee broad scope in answering. Response can be short or long
- **Examples**
  - "What's your opinion on…?"
  - "How do you currently handle…?"
  - "Describe the process for…"
  - "What are your biggest frustrations with…?"

- **Pros**
  - Puts interviewee at ease
  - Reveals vocabulary/attitude
  - Rich details
  - Uncovers new areas
  - More interesting
  - Spontaneous
  - Easier phrasing for interviewer

- **Cons**
  - Can lead to irrelevant details
  - Interviewer might lose control
  - Time-consuming
  - Can seem unprepared

Closed Questions: Getting Specifics

- **What:** Limits the range of possible responses. Often yes/no, short answers, or selecting from options
- **Examples**
  - "How many...?"
  - "Do you use...?"
  - "Which of these is most important: A, B, or C?"
  - "Is this form complete?"

- **Pros**
  - Saves time
  - Easy comparison across interviews
  - Gets straight to the point
  - Interviewer keeps control
  - Covers ground quickly
  - Yields specific data

- **Cons**
  - Can be boring for interviewee
  - Lacks rich detail
  - Might miss the *real* issue
  - Less rapport building

Open vs. Closed: Choosing Your Tool

- Trade-offs

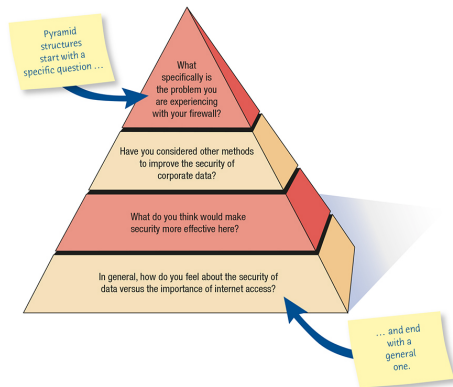| Modality	Open-Ended	Closed
Reliability of Data	Low	High
Efficient Use of Time	Low	High
Precision of Data	Low	High
Breadth and Depth	Much	Little
Interviewer Skill Required	Much	Little
Ease of Analysis	Difficult	Easy

- Key Takeaway
  - Open-ended questions give depth but are harder to analyze
  - Closed questions give precise, analyzable data but lack richness

Probes: Digging Deeper

- **What:** Follow-up questions used to get more information beyond the initial answer
- **Purpose:** To **clarify**, get more **meaning**, draw out **detail**, and **expand** on a point
- Examples
  - "Why?"
  - "Could you give me an example?"
  - "Please elaborate on that…"
  - "Tell me more about…"
  - "What happened next?"
- **Crucial:** Don't accept superficial answers! Overcome the hesitation to ask follow-up questions
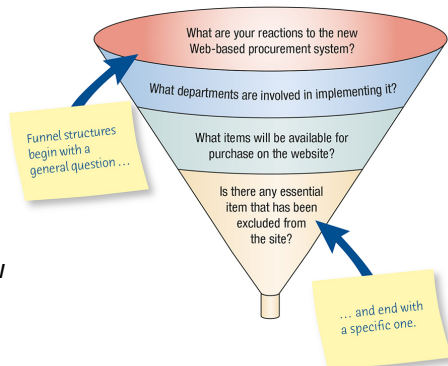
Interview Flow: The Pyramid Structure

- Structure: Start **Specific** (often Closed) → Move to **General** (more Open-Ended)
- Visualization: Imagine a pyramid shape for question flow
  - Top (Start): Narrow, detailed questions
  - Bottom (End): Broad, summary questions
- When to Use
  - When the interviewee needs to "warm up" to the topic
  - When you need a concluding, general statement or opinion
  - Useful if the interviewee seems hesitant or reserved initially

Pyramid structures start with a specific question …

What specifically is the problem you are experiencing with your firewall?

Have you considered other methods to improve the security of corporate data?

What do you think would make security more effective here?

In general, how do you feel about the security of data versus the importance of internet access?

… and end with a general one.

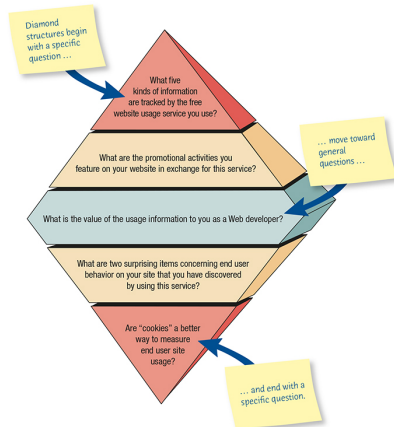©2024 Pearson Education, Inc.

Interview Flow: The Funnel Structure

- Structure: Start **General** (Open-Ended) →
  Narrow down to **Specific** (Closed)
- Visualization: Imagine a funnel shape for
  question flow
  - Top (Start): Wide, open questions
  - Bottom (End): Narrow, focused questions
- When to Use
  - Easy, non-threatening way to begin an interview
  - When the interviewee is knowledgeable and
    eager to talk
  - When the topic is sensitive or emotional
    (allows venting first)
  - To discover the interviewee's priorities before
    asking specifics

Funnel structures begin with a general question ...

What are your reactions to the new Web-based procurement system?

What departments are involved in implementing it?

What items will be available for purchase on the website?

Is there any essential item that has been excluded from the site?

... and end with a specific one.

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Interview Flow: The Diamond Structure

- **Structure:** Combines Pyramid and Funnel: Specific → General → Specific
- **Visualization:** Imagine a diamond shape for question flow
  - Start: Specific (Closed, easy warm-up)
  - Middle: Broad (Open-Ended, opinions)
  - End: Specific (Closed, focused conclusion)
- **Pros:** Combines strengths of the previous two and Good warm-up and closure
- **Cons:** Takes longer than the other two structures
- **Often the Best:** Provides structure, allows exploration, ensures focus

Diamond structures begin with a specific question ...

What five kinds of information are tracked by the free website usage service you use?

What are the promotional activities you feature on your website in exchange for this service?

... move toward general questions ...

What is the value of the usage information to you as a Web developer?

What are two surprising items concerning end user behavior on your site that you have discovered by using this service?

Are "cookies" a better way to measure end user site usage?

... and end with a specific question.

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Ending the Conversation Professionally

- **Ask the Magic Question:** "Is there anything else you think is important for me to know that we haven't discussed?" → May yield valuable extra info!
- **Summarize** your key takeaways briefly → Shows you were listening and allows correction
- Explain **next steps**
  - "I'll type this up"
  - "We'll analyze responses"
  - "We might have follow-up questions"
- **Ask:** "Who else do you recommend I speak with?"
- Confirm any follow-up actions or future meeting times
- **Thank them** sincerely for their time and input. End with a handshake (or virtual equivalent!)

Documenting the Discussion: The Interview Report

- Write the report ASAP! The longer you wait, the less reliable your memory becomes.
- Structure
  - Start with a quick summary/overview
  - Detail the main points discussed
  - Include your **own observations** and opinions (clearly labelled as such)
- Review the report with the interviewee in a follow-up (brief meeting or email)
  - Ensures accuracy and clarifies meaning
  - Shows you value their input and are thorough
  - Builds further trust
- This documentation is crucial input for the analysis phase

Unlocking Insights Through Stories

- Sometimes structured interviews aren't enough for **rich detail**
- Organizational stories (like myths/fables) relay important, shared information and values
- Focus on Enduring Stories: Ones told and retold, revealing deeper aspects of the organization's culture, history, and challenges
- They capture experiences, obstacles overcome, and lessons learned that might not surface in direct questioning

The Power of Narrative

- Understand past experiences (e.g., previous system implementations) without knowing exactly what questions to ask
- Gain insights into
  - Strategic objectives → Not just the official ones!
  - Potential obstacles → Political, technical, resource-based?
  - Decision-making processes → Actual one
  - Lessons learned → Past experiences
- Trade-off: Less time-efficient than interviews BUT...
- Benefit: More memorable, potentially more insightful, reveals values and behaviors
- Requires **patience** from the analyst to let the story unfold

Deconstructing the Narrative: The 7 Elements

- Stories often place the teller as the hero (protagonist) $\rightarrow$ Normal and makes the story relatable
- Elements of organizational stories
    1. Call to Adventure: The trigger - a problem or opportunity
    2. Quest: The goal or objective
    3. Struggle: Obstacles, conflicts, villains
    4. Transformation: A change in the hero or organization
    5. Resolution: The outcome
    6. Moral: The lesson learned or value reinforced
    7. Epilogue: Lingering effects

Elements 1-2: The Setup

1. Call to Adventure

"I was fascinated and envious—I wanted to be able to create those exciting images with their grungy textures, characters lifted from games, dramatic lighting, and emphatic quotes. Other people didn't seem to find it difficult to finish them, but I had no idea where to even start."

- The "Why": A problem needing fixing, an opportunity noticed
- Analyst Insight: What triggers change or projects in this organization?

2. Quest

"I was going to have to learn this discipline properly. Such things are not achieved overnight, of course, and so began a long quest to find, practice, and learn from every design resource I could find."

- The "What": The objective, the prize worth striving for
- Analyst Insight: What are the stated (and unstated) goals of their initiatives?

Elements 3-4: Trials to Triumph

3. Struggle

"Researching the topic, I realized that I had used the wrong tool for the job. Exasperated and in no small way desperate, I began looking for a package I could turn to, to rescue the situation. Time was pressing and, even if I could find an answer in time, as the now self-proclaimed designer in the team I would have to learn it double-quick."

- The "Obstacles": Conflicts, setbacks, "villains" (competition, regulations, internal issues, lack of knowledge)
- Analyst Insight: What are common roadblocks? Who/what opposes change? Where are the pain points?

4. Transformation

"Taking stock for a moment, I began to wonder if it was possible to begin a business operation based on the open source software I was now developing in confidence and ability with. It became an ambition."

- The "Change": Often internal: learning, adapting, changing behavior or process
- Analyst Insight: How does the organization adapt? What enables solutions?

Elements 5-6: From Growth to Success

5. Resolution

"In 2009, I designed and built a website for the bakery that went on to supply our wedding cake, saving us money and introducing new customers to their business, too. In 2010, I created all the artwork for our wedding stationery. Later the same year, I registered my UK company and began providing Web design services to local companies who needed designs for their websites, which I then started to code."

- The "Outcome": Did the quest succeed? Was the problem solved?
- Analyst Insight: What does 'success' look like here? How are results measured?

6. Moral

"To me, open source software means opportunity. It means education, freedom, commitment, collaboration and challenges. I went from knowing nothing whatsoever about design and coding to starting my own Web design business and capturing local clients who were happy with the things I've made for them and unconcerned by the tools I'd used to do it."

- The "Lesson": The explicit or implicit takeaway message about values or behavior
- Analyst Insight: What are the core values being communicated?

Element 7: Insights and Ongoing Journey

7. Epilogue

"And even though my day job prevents me from publishing anywhere near the number of blog articles I want to (for which I apologize to my readers—you are not forgotten), it still manages nearly 3,000 visitors a month, and I regularly receive requests for tutorials from around the world, which I will get around to at some point."

- The "Aftermath": Lingering effects, new challenges arising later
- Analyst Insight: Are solutions truly stable? What new issues might be emerging? Why might the system need changing *again*?

The Purpose Behind the Tale

- Understanding *why* a story is being told adds crucial context
- Types of Organizational Stories
  - Experimental: Describe "what life is like here" → Sharing experiences, culture
  - Explanatory: Explain why things happen or why decisions were made → Justifying actions
  - Validating: Convince listeners the organization made the right choice; reinforce existing values → Building consensus, maintaining culture
  - Prescriptive: Suggest how people should behave → Guiding behavior
- Recognizing the type helps the analyst interpret the story's significance

Integrating Stories into Your Toolkit

- Storytelling is a **complementary** method, not necessarily a replacement for interviews, JAD, or surveys
- Use stories to gain **deeper understanding** of problems related to
  - Current system use
  - Past system development/adoption experiences
  - Designing for the *intended* audience
- Analyst's Role
  - Engage: React, show interest
  - Connect: Recount related stories to others (appropriately)
  - Collaborate: Help participants reframe or make sense of their own stories
- Critical Warning
  - Listen to the *whole* story
  - Fragments lack context and purpose, limiting their value

JAD: Designing Together in a Workshop

- Problem
  - One-on-one interviews can be time-consuming, prone to errors and misinterpretations
  - Storytelling takes time too
- **Solution:** Joint Application Design (JAD) $\rightarrow$ Developed by IBM
- **Core Idea:** A structured group workshop bringing analysts, users, and executives together to define requirements and design interfaces **jointly**
- Main Motivations
  - Cut Time and Cost: Reduce serial interview time
  - Improve Quality: Leverage group synergy for better requirements
  - Increase User Ownership: Foster buy-in through participation

Is JAD the Right Approach for Your Project?

- Consider JAD When
  - Users are eager for **new, innovative solutions**, not just standard fixes
  - Organizational culture **supports collaboration** across different levels → People are used to working together
  - You anticipate needing **more diverse ideas** than individual interviews might generate → Group brainstorming power
  - Key personnel **can be freed up** for a dedicated 2-4 day block of time → This is critical!

Who Participates in a JAD Session?

- Key Roles
  - **Executive Sponsor:** High-level champion (usually a user exec); introduces/closes session, shows commitment
  - **IS Analyst(s):** Listen, clarify technical feasibility, advise on costs of proposed ideas. *Passive* role during discussion, unlike interviews
  - **Users (8-12)**
    - From various levels
    - Articulate needs and desires for the new system
    - The core contributors!
  - **Session Leader:** (NOT the project analyst)
    - Facilitator
    - Excellent communicator, neutral, guides discussion, resolves conflict, builds consensus
    - Can be external
  - **Observers:** Technical experts from other areas; offer advice when needed
  - **Scribe:** Formally documents *everything* decided and discussed during the session. Usually from the IS team.
- **Crucial:** All participants must be committed and present

Setting the Stage for a Productive JAD

- Where
  - **Off-site** is highly recommended! Minimizes workplace distractions.
  - Comfortable setting (e.g., conference center, university facility)
  - Room large enough for all participants + equipment
- Equipment
  - Two projectors/screens (for laptops, tablets)
  - Whiteboard AND Flip chart (different uses!)
  - Easy access to a copier
  - *Optional: Group Decision Support System (GDSS) room with networked PCs*
- When
  - Schedule when **everyone** can commit 100%. No partial attendance!
  - Send agenda **in advance**
  - Consider: Half-day orientation meeting ~1 week prior to set expectations
- Format: Face-to-face is historically preferred; effectiveness of purely virtual JAD is less established → Nowadays, people use *Miro*, *Mural*, etc.

What Happens in JAD and What Comes Out?

- Structured Approach (IBM Example)
  - Examine project activities point-by-point (e.g., planning, receiving, tracking, monitoring, sending, evaluating)
  - For each, ask: Who? What? How? Where? Why?
- Limitations: Less suitable for highly unstructured, ad-hoc, or prototype-driven systems (e.g., some recommender systems)
- Analyst's Post-JAD Role
  - Receive detailed notes from the Scribe
  - Prepare the formal **Specifications Document**
  - Document: Management objectives, project scope/boundaries, system specifics (screens, reports, etc.)

Why JAD Can Be Awesome

- Time Savings
  - Compresses weeks/months of serial interviews into days
  - Potential for ~15% time savings in requirements gathering phase (as per some estimates)
- Rapid Development: Faster transition from requirements to development due to compressed timeline
- Improved User Ownership
  - Early, meaningful involvement treats user feedback seriously
  - Users feel more connected to "their" system
- Creative Design
  - Group dynamic fosters brainstorming and synergy
  - Generates more innovative ideas than individuals working alone

Potential Pitfalls: Why JAD Might Stumble

- Requires Large Time Commitment
  - 2-4 *full*, *uninterrupted* days from *all* key personnel is a significant organizational cost/commitment
  - Hard to schedule
- Success Highly Dependent on Preparation and Follow-up
  - Inadequate planning (agenda, roles, logistics) = Wasted time
  - Incomplete/poor documentation afterward = Lost value
  - *Less predictable outcome* than interviews if not executed perfectly
- Requires Supportive Culture and Skills
  - Organization must be ready for intense collaboration
  - Requires skilled facilitation and committed participants
  - If culture or skills are lacking, it can be unproductive or even counterproductive
- Decision: Weight benefits against these drawbacks for YOUR specific context

Questionnaires: Gathering Data at Scale

- An information-gathering technique using written questions (paper or electronic). Also called **Surveys**
- Allows study of
  - Attitudes: What people *say* they want
  - Beliefs: What people *think* is true
  - Behavior: What people actually *do*
  - Characteristics: Properties of people/things (e.g., job title, years of experience)
- Especially useful for **quantifying** responses (e.g., percentages) using closed questions
- Can complement interviews: Quantify interview findings, identify issues *before* interviews, or clarify questionnaire responses *with* interviews

To Survey or Not to Survey?

- Don't underestimate planning time! Developing a *useful* questionnaire takes effort
- Decide your objective: Quantify preferences? Get in-depth process analysis? (Questionnaire better for the first, interview for the second)
- Use Questionnaires If
  - People are **widely dispersed** geographically
  - Need input from **many people** and knowing proportions (e.g., % approval) is important
  - Doing **exploratory study** to gauge overall opinion early on
  - Want to identify common problems **before** conducting detailed follow-up interviews
- Online surveys add considerations: Confidentiality, authentication, multiple responses

Crafting Questions Without Clarification

- **Biggest difference from interviews:** No real-time interaction!
- You CANNOT
  - Refine questions on the fly
  - Define unclear terms instantly
  - Change course based on non-verbal cues (like a puzzled look)
  - Control the context easily
- THEREFORE, questionnaire questions MUST be
  - Transparently clear (unambiguous)
  - Logically structured (cogent flow)
  - Anticipate respondent's potential confusion
  - Planned for detailed administration
- **Analogy:** Phone conversation vs. Message in a bottle

Open-Ended Questions in Surveys

- **What:** Leaves response options open to the respondent
- Examples
  - Asking for lists: "What are the most frequent problems?" (with blank lines for A, B, C)
  - Asking for specifics: "Of the problems you listed, what is the single most troublesome?"
  - Asking for explanations: "Why?" (with space for detail)
  - Asking for short answers: "How long have you worked here?" (Years/Months blanks)
- Use When
  - Seeking opinions or unforeseen insights
  - Impossible to list all potential responses
- Challenge
  - Must be **narrow enough** to guide useful answers
  - Avoid "How do you feel about the system?"
  - Analysis is time-consuming

Closed Questions in Surveys

- **What:** Limits response options to a predefined set
- **Examples**
  - Checking boxes: "Check the software you use the most."
  - Circling numbers: Rating frequency "Never (1)…Always (5)" → Likert-like scale
  - Circling answers: Choosing from a list ("Which division?"/"Educational background?")
- **Use When**
  - All likely responses can be listed
  - Responses are **mutually exclusive**
  - Surveying **large** number of people
  - Easy analysis
- **Scaling:** Writing closed questions with ordered answers (like rating scales)

Choosing Your Question Type: Survey Edition

- Trade-offs

Modality	Open-Ended	Closed
Speed of Completion	Slow	Fast
Exploratory Nature	High	Low
Breadth and Depth	High	Low
Ease of Preparation	Easy	Difficult
Ease of Analysis	Difficult	Easy

- Key Takeaway
  - Closed questions are faster and easier to analyze for large groups
  - Open-ended offer richer, exploratory insights at the cost of analysis time

Word Choice Can Make or Break Your Survey!

- Use **respondents' terminology** (e.g., "supervisors" vs. "managers") → Pilot test to check!
- Keep wording **simple** and **specific**
- **Don't patronize** with overly simplistic language
- Keep questions **short**
- Avoid bias: Don't lead respondents, avoid loaded or objectionable questions → Have someone review!
- Target questions appropriately → Ensure **technical accuracy**
- Use software to check **reading level** if unsure

Introduction to Scaling

- What: Assigning numbers or symbols to attributes/characteristics for measurement
- Common Measurement Scales
  - Nominal Scales
    - Used for **classification**. Numbers are just labels
    - Example: `1 = Word Processor`, `2 = Spreadsheet`, `3 = Database`
    - Analysis: Mostly just counting totals for each category
  - Interval Scales
    - Intervals between numbers are **equal**
    - Example: Temperature (Celsius/Fahrenheit)
    - Survey Example: Rating usefulness `1 (Not Useful)` − 2 − 3 − 4 − `5 (Extremely Useful)`
    - Analysis: Allows mathematical operations (averages, etc.) → More powerful

Ensuring Scale Quality and Avoiding Pitfalls

- Key Measures of Scale Quality
  - Validity: Does the question actually measure what you *intend* it to measure?
  - Reliability: Does the question produce *consistent* results?
    - External Consistency: Same results if administered again under same conditions?
    - Internal Consistency: Do different subparts of the scale measuring the same concept yield similar results?
- Common Scale Construction Problems
  - Leniency: Respondents are too easy/hard raters. → shift the 'average' position
  - Central Tendency: Respondents rate everything as average. → Adjust descriptor strength, use more points, smaller differences at ends
  - Halo Effect: Impression from one question influences answers to later questions → Rate one functionality across old and new system together, NOT old system in a single page and new system in a separate page.

Designing for Response: Layout Matters!

- Good design encourages responses; bad design leads to frustration and discarded surveys
- Four Key Design Rules
  - Allow ample **white space** (don't look cluttered)
  - Allow ample **space to write/type** responses (especially for open-ended)
  - Make it **easy to mark answers** clearly (check boxes, radio buttons)
  - Be **consistent in style** (fonts, layout, question format)
- Web forms use standard elements → Apply the same design principles
  - Text box
  - Text areas
  - Radio button
  - Check-boxes
  - Dropdown list
  - Submit button

Structuring the Survey: Question Order

- No single 'best' order, depends on objectives and respondents
- General Guidelines
  - Start with questions most **important** to the **respondent** (gets them engaged)
  - Alternative: Start with easy, non-threatening questions
  - **Cluster** questions on the same topic together
  - Place **less controversial** questions before more sensitive ones
- Goal
  - Keep respondents interested
  - Make them feel comfortable
  - Prevent early questions from biasing later ones

Distributing Your Survey

- Who Gets It?
  - Decision tied to objectives
  - Sampling helps determine representation
  - Often chosen based on rank, job duties, interest in system
  - Include enough people to account for non-responses or spoiled surveys
- How to Administer?
  - Convene everyone at once → Captive audience - high response rate, requires scheduling
  - Personal handout and collection → Good control, personal touch, more legwork
  - Self-administered at work, drop in central box → Convenient, perceived anonymity
  - Mail to branches → Reaches dispersed users, requires clear instructions/postage
  - Electronically: Email or Web → Common now

Surveys in the Digital Age: Email and Web

- Advantages
  - Quick distribution to many users
  - Low duplication/distribution cost
  - Respondent convenience
  - Can allow saving partial responses and returning later
  - Automatic data collection and potential tabulation
  - Easy, inexpensive reminders
  - Easier to gather answers to sensitive questions
- Tools: Services like **SurveyMonkey** (which acquired MailChimp) simplify creation, distribution, tracking, and basic analysis
- Disadvantages
  - Still relies on self-administration → Potential for ignoring, forgetting
  - Requires computer/internet access for respondents
  - Potential issues with authentication, multiple submissions if not managed

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