Team Development 5 team roles

- Design Team Lead (DTL)
    - Ensure organization needs are met and on time
    - If someone is falling behind/not meeting standards… talk to them
    - Responsible for quality of client's engagement
    - Design team lead is a senior designer - regardless of discipline and has exposures to others
    - Team lead is sufficiently involved to understand what's going on
    - There is no separation of business responsibility and design responsibilities
    - Understand POV of each discipline
    - Not fully invested in project
    - Develops initial research plan - done in consultation with the rest of the team
    - Works closely with visual and industrial designers on how the visual and physical design communicates system's behavior
        - Relative importance of information of the behavior of widgets and physical controls
    - Reviews design documentation developed by IxD synthesizer
- Interaction designers (IxDG):
    - How user will interact with product - trying to understand steps in process
    - Responsible for leading the visualization of system behavior, structure, flow of details
    - Ability and drive to visualize concrete solutions
    - Articulating the design in visual terms - form of sketches and detailed screenshots
    - Works closely with visual and industrial designers on how the visual and physical design communicates system's behavior
    - Reviews design documentation developed by IxD synthesizer → conveys behavior clearly and correctly and it answers the questions engineers have

- Interactive Designer - Synthesizer (IxDS)
    - Takes ideas from generators and puts in forms that useful for group - put into concrete and usable form → translator for rest of team → visual cues that guide user
    - Leading analysis and communication of the design
    - Able to identify problems not evident from looking at design solely from structural sense - design was complete and used documentation as design aid - when explaining design, you'll ask questions about how it works
    - Distilling ideas and using the narrative point of view to analyze design solutions
    - Ensure clarity and effectiveness of any solutions - help articulate half-formed ideas then involve ideas by asking questions
    - Detail-oriented enough to explain everything an engineer needs to build a custom widget - explain big picture, reasons the widget needs to work that way
- Visual Designer (VisD)
    - Add intuitive and appealing visual cues to product
    - Aim for maximum usability and desirability
    - Conveying the brand ideals in product and for creating a positive first impression
    - Maximum usability combined with maximum desirability
    - Usually best suited to lead interviews
    - Responsible for articulating any visual design requirements
    - Proposes visual strategy, gets consensus, develops, refines and details visual system
    - Can identify flaws by thinking about things will be represented on screen
    - Good at spotting unnecessary inconsistencies - develop a visual system that contains few unique elements
    - Have good visualization and rendering skills
    - Understanding of graphic design fundamentals

    - Icon design - deep understanding of how humans recognize and interpret symbols - minimum number of pixels
    - Collaboration skills and empathy and important - present work w/ convincing rationale
- Industrial Designer (ID)
    - Responsible for designing hardware that is aesthetically pleasing, ergonomically, environmentally appropriate, and cost effective
    - Responsible for articulating hardware-related design requirements + description of product's experience attributes
    - Any product experience attircute
    - Drive any interviews related to the design team's understanding of hardware or manufacturing issues works closely with visual designer, interaction designer on form factor and itneration framework
    - Refinement of the industrial design has to do with engineering considerations more than visual design
    - Closely with engineer in later project team than with rest of the team
    - Significant role in developing the initial interaction design concepts - productive tension between interaction designers and industrial designers - physical controls on a device
    - Emphasis on tactile and 3d thinking
    - Communication and empathy important → don't want stakeholder opinion to be on aesthetics
    - Must integrate hardware and software design and engineering

Research Overview/Preparation & Marketing Requirement Document

Chapter 4:*

Typical Schedule:

- Team ramp-up
- Kickoff meeting
- Stakeholder interviews

- Competitor and literature review
- User interviews and observation → collecting info from real people
- Product audit, quantitative studies or other research

Why we do research: → improve user experience

- Eliminate guesswork → being wrong cost money
    - Speeds up decision making because it prevents much of the opinion based wrangling
    - Companies that don't start w/ good info may waste time only to find out product doesn't meet need
- Protect yourself → hard to argue with facts
    - When it's your judgement against superior… hard to win argument
- Argue with stakeholders → keep your job

Barriers to research: → cost time and resources, more attempts, credibility suffers

- "We're already smart!" → how much of idea has to do w/ technology we are already familiar with
    - May have spent money/time on marketing research
    - A small amount of good data can provide greater level of confidence and a better targeted product than most product development processes
    - Marketing research is focused on the people who would buy the product (not the people who use it)
    - Subjective matter experts may have a narrow expertise that doesn't account for all potential usage + its been a while since they've been a user
- "We'll keep prototyping until we get it right!" → we are somewhat informed, but keep trying until it turns out ok

Design Research it not Market Research

- Design research: how people will use the product
- Market Research: how to make customers buy the product
- Goals:
    - Understand the organization → what product/idea does our organization want to put forward

    - Understand the potential user → who is actually using the product? How are they using the product?
    - Understand the competitive marketplace → is there room for your product/idea? - better to study user's on that they do and not what they have done

Quantitative research

- based on numbers.. Look it up
- big picture, macro-level, little ambiguity
- Useful when trying to understand how large potential market is, typical demographic, or whether people are using outdated technology

Qualitative research:

- perform first hand.. Indepth research.. Better at revealing what you need
- stakeholder interview, focus group, individual
- gathering information in sentences → richness, thought process, life → hard to make conclusions
    - Self reporting error

Common methods

- Usability testing → ask to go to home and observe as they complete tasks or ask to go to artificial place to observe them (not useful b/c design usually ends up changing)
    - Good to persuade people there are problems
    - Not that useful b/c design will change
- Focus groups → your organization sits down with two or more people and you invite them so you can ask questions to get qualitative feedback.. Want them to talk to each other and have ideas bounce off of eachother → you're there to facilitate conversation therefore step away from it
    - When researcher involved in qualitative process… you are likely to influence response → want data to be as unbiased as possible

    - Not useful for understanding how people will use product + self reporting error
    - More consensus and less forthcoming in crowd
- Individual interviews → unable to get distance from interviewee.. Potential for influence
    - Able to go deep with the person... ask follow up questions that deal directly with individual
    - Good for customers who are not users
    - Self reporting error
- Direct observation → already have product, put it in someone's hand in real life so they can use it → you collect data on how they use it → unfiltered view on how they use product in everyday life → difficult to set up
    - May miss crucial parts of jobs/moments
    - Minimize self-reporting - may need to spend lots of time observing to see all interactions

Essential research skills:

- Active listening → not asking leading questions → presenting questions as objective as possible, take answers as them come even if you didn't predict it or it hurts your product
    - Encourage them to speak more
- Proper data capture → making sure that you can come back to person's answers in proper way → scribe… audio or video recording
    - Pen and paper - difficult to keep up + be accurate… they are going to notice you're writing and will change how they answer questions.. Second guess what they say
    - Audio recording - you get every word.. Interview subject will forget they're being recorded - you won't get nonverbals
    - Video recording - tone, you get every word, non verbals - won't forget they're being recorded

Chapter 5: *

Stakeholder Interviews

- Stakeholder interviews
    - No selling or preaching, only active listening
    - Sounds like you're putting something over → hiding something… trying to trick and present product as something else → reveal positives and negatives
- Torpedoes
    - Not every stakeholder wants success
        - Rather go w/ other idea
        - Don't have resources right now
        - Product manager may seem to have total authority but CEO may not like something… project could experience 180 turn
            - Listen to stakeholder interviews

Marketing requirement document (MRD):

- Generated by product marketing or product management - many are too long or detailed and take too much time to product
    - Average 30 to 100 pages of statements which are vague and specific
    - Should but often does attempt to specify the contents of list boxes and other details
    - Product managers attempt to be exhaustive b/c they assume engineers will use the requirements to build product
    - Should function as brief, preliminary proposal whose audience are stakeholders and design team
    - Conceptual design and rough construction estimates serve as the more detailed proposal → stakeholders can review and request adjustments
    - Final design + engineering specifications then function as blueprint for construction

Marking Requirements Document - each question is a qualitative mental scale to compare prospective project to others & anticipate required effort and skills and issues

- *Revenue or cost focus → are you creating a new product to generate new revenue or saving money by cutting cost - best to start w/ ideal project plan than make trade-offs later*
- *Desire to innovate → is it going to be a new feature or a small change*
- *Length of time horizon → how much time will it take to bring an idea to life.. How long will it actually take to get on the market*
    - *Some organizations focus on achieving specific objective if it takes longer*
    - *Others are concerned with hitting deadline → define a target or holiday season*
- *Understanding the problem before solving it → what problem will it solve? How will it benefit the people → understand problem objectively before trying to solve it*
    - *Can stakeholder particular problems? Is there consensus on the problem?*
    - *Use research to backup your idea on the problem you're trying to solve*
- *Willingness to invest risk factor → your idea will be better if it doesn't require all the money*
    - *Ask project owner what he expects budget to be*
- *Risk factors → what are the risk factors of someone hurting themselves? Damage to the environment?*

Qualitative Schedule

Chapter 5:

Stakeholder meeting

Chapter 6-8:

Individual meetings and focus groups

Research plan:

Chapter 13:

User and Domain analysis:

- Formal communication - promotes common understanding, shared expectations and commitment
- Have all relevant stakeholders review work
- Build credibility with stakeholders

- Enabled informed action → provide clear set of articulated choices and extent possible to help stakeholders make choices
- There may be info you can't provide, but you can offer clear understanding of users and customer needs
- Persona + goals provide framework for making decisions
- Scenarios provide vision of product or service → stakeholders better idea of choices
- Allows stakeholders to ask questions
- Senior business decision makers are primary audience for U&DA
- Typical structure:
    - Summary of findings, issues, and patterns,
    - Set of personas that encapsulate patterns
    - Several scenarios describing how personas would like things to be
    - Requirements implied by those scenarios and findings
    - Discussion of how you'll move forward

Summary:

- Essential to make formal communication
- Try to anticipate stakeholder questions

Modeling and Personas

Chapter 10:

Modeling: → making sense of data

- A model is a description that helps people understand and communicate about observed behavior
- Framework for understanding complex ideas
- Modeling the results of your research will help you condense and visualize information to understand human behavior patterns, workflow, and trends → condense information in a way to take it useful
- Training to help entire product team build shared view of problems
- Conclusions come from data and not from imagination

- The goal is to enable informed action
- Summarize: Stakeholder findings + user interviews (key issues with project owner) + other research → what sources validate/contradict each other
    - Stakeholders: what it means for work, controversies + both know you understood vision and concerns
    - Analyzing customer and user data: a summary w/ effective analysis - understanding data → identify patterns and relationships

Techniques:

- Single case analysis: understanding one interaction
    - Focus on understanding what you heard and saw with one individual at a time
    - Everyone understand what you saw and heard and why each person thought
- Cross-case analysis: identifying trends among several interactions → general truth
    - Grouping and comparing individual cases to identify trends and behavior patterns
    - Make sure you understand individual cases well enough
    - Riches form of cross case analysis: personas
- Coding/check-coding → process to distill information
    - Begin single-case analysis by categorizing each comment or observation
    - Coding is when you take trends and apply numeric values to them
    - Check coding does the same thing independently → compare numeric results… lots of consistency → coding data is reliable → what is one person seeing that other person doesn't
        - Two researchers individually code the data and then compare and merge their work
    - Some examples to apply: Goals, frustrations, skills, frequency, quantity, priority, etc.
    - Many will be unique to each project - just examples above

- Articulating models within a case:
    - Modeling contents of interviews can help understand and interpret observations - your team should be able to illustrate basic activity flow you observed and describe criteria at various decisions
    - Analysis process
        - Synthesize stakeholder findings → begin analyzing user data dn drafting findings → create personas → finalize user findings and other methods
    - Activity diagram - would be built off persona… what their activity would be and what chain and why → understanding activity you can understand thoughts and actions to predict things they would be interested in
    - Decision Tree → person is deciding what they want - different outcomes from different possible results → further branches
        - Able to articulate mental model: how they view world/objects and relationships (taxonomy)

At the end, ask yourself? - you must decide how to focus your findings on things that will have greatest effect on product definition or business strategy

- Do the findings and models cover everything stakeholders expect to see?
- Where to findings differ from stakeholder assumptions, have you provided sufficient evidence to be compelling and have you been clear but diplomatic
- Have you jumped to any conclusions that seem incorrect or are not supported by what you observe
- Are your findings detailed enough to make sense, but at a high enough level that it won't take you two hours or 20 pages to explain them?

Summary:

- Modeling → make sense of data so you and stakeholders can understand use it to make informed decisions
- Any approach that helps gain insight → good → conclusion comes from data not imagination
- Do not force data to draw any general conclusions

- Examine from multi POV
- Explain outliers + address controversy head-on b/c disagree left unresolved at this stage will hinder progress later on

Personas:

- Are archetypes that describe the various goals and observed behaviors among potential users and customers
- Explains critical behavioral data relatably
    - Good for anything experienced by human being
    - Personas helpful in accomplishing a wide range of activities - defining and designing products, communicating stakeholders about the audience, building consensus, rallying team, marking, developing documentation, prioritizing bug fixes.
    - Good for summarizing research data
    - Powerful tool for getting people to see service in new light
- Cross-case analysis - having several interactions - inductive reasoning
- User storytelling to engage the social and emotional aspects of our brains
- The “user” is generally an ill defined and ever-changing type of person, but everyone knows what others mean when they refer to “Brenda” or “Ted”
    - Natural way for people to understand behaviors - archetypes
    - Personas don’t slow down process
- Tips:
    - Don’t get carried away with photos and fictitious biographical details at the expense of the data
    - Adding a name and photo to a bullet list of characteristics is not a persona. This lacks the power of storytelling and fails to engage empathy
    - Good data, rigorous analysis and compelling, human presentation are all essential to making personas work

Summary:

- Personas are useful tool for product design and definition

- Engages part of your brain think human terms → faster and better decisions
- Focus on finding and expressing patterns in your data

Chapter 12:

Requirements:

- *Your group should make about 3-5 personas*
- *Requirements:*
    - *Name*
    - *Photo*
    - *Set of goals → what do they care about accomplishing in life in general*
    - *Narrative paragraphs that cover…*
        - *Mental model → what were their thought process be*
        - *Environment*
        - *Skills*
        - *Frustrations*
        - *Attitudes*
        - *Typical tasks*
        - *Any other factors needed to understanding behavior patterns*

Context Scenario & Requirements*

Order of operation: persona → context scenarios → requirements

Context Scenario:

- A few paragraphs (optimistically) describing how your personas might interact with your idea → name a few things that could be requirements
- Be true to your personas
- Create them as a group
- Strike balance between too much and too little
    - Plausible description of future based on coherent set of assumptions
    - powerful tool ensuring design accounts for full range of possible interactions

    - Good scenario explains persona's motivation for particular behavior and indicates persona's goals the system achieves
    - Help evaluate whether proposed solutions make sense
    - Provide a concrete way to think about human behavior

Requirements:

- This is what our product must be able to do
- Created from modeling efforts
- Needs =/= solutions
    - Need = avoid the time and effort involved in installing individual client son each desktop
    - Solution = "it has to be web based"
    - Jumping to the obvious solution too early can eliminate great opportunity
- Data needs (nouns)
    - Picture storage
- Functional needs (verbs)
    - Can connect to PCs
- Product and service qualities (neither)
    - Slightly waterproof
- Constraints
    - Price point between $400 and $600

Requirements: once you have analyzed data and created models → begin thinking about future, what the product or service must do to succeed

- Needs are expressed at requirements
- Requirements can't be gathered
- Not feature/specifications/solutions
- Design requirements/user needs
- Get the best reuqiremnets - what will make the initial sale? What will ensure long-term loyalty? What will be too much time or money to spend?

- Process: analytical: looking at requirements implied by various sources then filtering thru persona goals - generative: creating scenarios that describe idealized product or service use → drawing requirements from those

Summary:

- Requirement definition connects dots between research and design
- Check ideas and assumptions against personas + scenarios
- Stakeholders are audience for requirement
- Stimulate discussion and facilitate informed decisions
- Clearly defining needs before seeking solutions will provide tremendous value in product definition