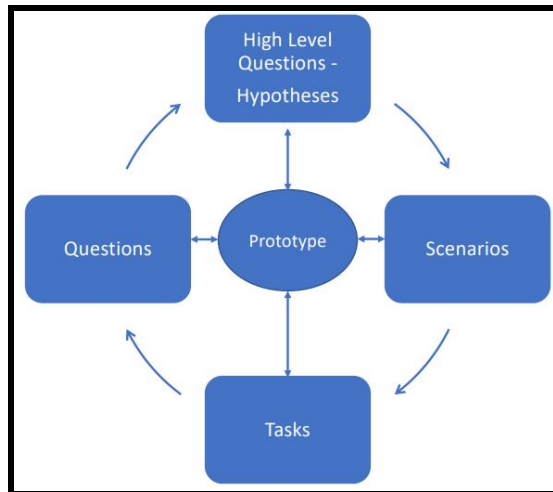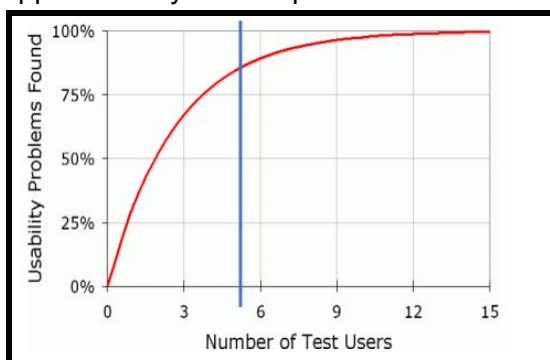**Designing the Usability Test:**

- **High Level Questions – Hypotheses:**
- Related to your designs that you want to have answered, but that you would usually not ask the users directly.
- E.g.
  Is the functionality clear to the users? (function)
  Are language and icons clear? (language & visuals)
  Can users figure out how to use our system? (usability)
  Would users find this system useful? (usefulness)
  Would our target users use our system? (would use?)
- **Scenarios:**
- The situations you want your users to pretend to be in, in order to perform your tasks.
- **Tasks & Script Questions:**
- **Tasks** are activities you want the users to perform with your prototype, to answer your high level questions.
- **Script questions** are used to instruct users to perform your tasks.
- E.g.
  Task: Create an event.
  Question: Can you show me how you would make a doctor's appointment for Wednesday afternoon?

  Task: Navigate system & language.
  Question: Can you contact the receptionist at the clinic to check for special instructions prior to the appointment?

  Task: Share event.
  Question: Can you invite your mother to the doctor's appointment?
- All technology is usability tested. The only questions are:
  a. When?
  b. By Whom?
  c. At What Cost?

Wizard of Oz Technique:
- Usually has the following people:
    - **Facilitator:**
        - There are 2 types of facilitator:
            a. **Host:**
            - Greet users
            - Introduce people
            - Explain test details
            - Lead questioning
            - Provide positive feedback & support frustrated users
            - Consider observers needs
            - Debrief afterwards
            b. **Scientist:**
            - Bewares of bias, maintain objectivity
            - Echoes users' vocabulary & use open ended questions
            - Remind to talk aloud
            - Take notes
    - **Note Taker:**
        - Takes very detailed notes of participant words & actions.
    - **Observer:**
        - Observe quietly, cell phones off
        - Take notes
        - Avoid communicating, interrupting
        - Preserve confidentiality
        - Observes reactions, facial expressions, computer screen interactions
    - **Participant:**
        - Consent
        - Focus, avoid distractions
        - Suspend disbelief
- There should be at least 5 users. Research has shown that 5 users can identify approximately 85% of problems.

- **Note:** Usability testing is not a demo.
- Once you start explaining the interface, you no longer have a usability test but a very expensive training session.
- Once you explain something, you forever lose an opportunity to understand the user's problem. The user gets embarrassed of their ignorance and they can't reconstruct their thoughts before finding a solution.

Capturing Data in Usability Tests:
- Some data types are:
    1. **Observations:** Objective, factual statement
       E.g. User paused for a couple of seconds.
    2. **Inferences:** Conclusions based on observations & assumptions
       E.g. The user paused because they didn't know the format of data entry and tried to remember.
    3. **Opinions:** Use "should" & "need"
       E.g. We need clearer data entry format instructions.
- Inferences and opinions in your notes are 'argument seeds,' likely to sprout into disagreement later.

Usability Testing Protocols:
1. **Think Aloud:**
    - Users need to express their thoughts as they work.
    - Difficult for first timers, need reminders.
2. **Talking to Users as They Work:**
    - Alternative to Think Aloud.
    - Very helpful in paper prototyping tests.
    - Ask questions, encourage to elaborate, remain neutral/
3. **Co-discovery Users Together:**
    - More natural conversation.
    - Hard to match pairs - friends, co-workers, experience.
    - Gets less information than 2 separate/individual users.

Capturing Data in Usability Tests:
- Screen & data capture
- Video & audio recording
- Note taking

Where to Find Participants:
- Friends & Family
- Social network – University, Church, Facebook, Colleagues NOT on the project
- Starbucks, Mall, Community Centre, Airplane
- Trade Show, User Groups, Forums
- Craigslist
- Temp agency
- Recruitment company (expensive)

System Usability Scale (SUS):
- Looks like this:

	The System Usability Scale Standard Version	Strongly disagree				Strongly agree
		1	2	3	4	5
1	I think that I would like to use this system.	○	○	○	○	○
2	I found the system unnecessarily complex.	○	○	○	○	○
3	I thought the system was easy to use.	○	○	○	○	○
4	I think that I would need the support of a technical person to be able to use this system.	○	○	○	○	○
5	I found the various functions in the system were well integrated.	○	○	○	○	○
6	I thought there was too much inconsistency in this system.	○	○	○	○	○
7	I would imagine that most people would learn to use this system very quickly.	○	○	○	○	○
8	I found the system very cumbersome to use.	○	○	○	○	○
9	I felt very confident using the system.	○	○	○	○	○
10	I needed to learn a lot of things before I could get going with this system.	○	○	○	○	○

- The System Usability Scale (SUS) provides a quick and dirty, reliable tool for measuring the usability. It consists of a 10 item questionnaire with five response options for respondents; from Strongly agree to Strongly disagree. Originally created by John Brooke in 1986, it allows you to evaluate a wide variety of products and services, including hardware, software, mobile devices, websites and applications.
- SUS has become an industry standard, with references in over 1300 articles and publications. The noted benefits of using SUS are that it:
    - Is a very easy scale to administer to participants.
    - Can be used on small sample sizes with reliable results.
    - Is valid – it can effectively differentiate between usable and unusable systems.
- Here is an overview of the method used in finding your SUS score:
- Your users will have ranked each of the 10 template questions above from 1 to 5, based on their level of agreement.
    - For each of the odd numbered questions, subtract 1 from the score.
    - For each of the even numbered questions, subtract their value from 5.
    - Take these new values which you have found, and add up the total score. Then multiply this by 2.5.
- The result of all these tricky calculations is that you now have your score out of 100. This is not a percentage, but it is a clear way of seeing your score.
- The average SUS score is 68.

Net Promoter Score (NPS):
- The **Net Promoter Score (NPS)** is a management tool that can be used to gauge the loyalty of a firm's customer relationships. It serves as an alternative to traditional customer satisfaction research and is claimed to be correlated with revenue growth.

- The Net Promoter Score is an index ranging from -100 to 100 that measures the willingness of customers to recommend a company's products or services to others. It is used as a proxy for gauging the customer's overall satisfaction with a company's product or service and the customer's loyalty to the brand.
- Customers are surveyed on one single question. They are asked to rate on an 11-point scale the likelihood of recommending the company or brand to a friend or colleague. "On a scale of 0 to 10, how likely are you to recommend this company's product or service to a friend or a colleague?" Based on their rating, customers are then classified in 3 categories: detractors, passives and promoters.

DETRACTORS	PASSIVES	PROMOTERS
'Detractors' gave a score lower or equal to 6. They are not particularly thrilled by the product or the service. They, with all likelihood, won't purchase again from the company, could potentially damage the company's reputation through negative word of mouth.	'Passives' gave a score of 7 or 8. They are somewhat satisfied but could easily switch to a competitor's offering if given the opportunity. They probably wouldn't spread any negative word-of-mouth, but are not enthusiastic enough about your products or services to actually promote them.	'Promoters' answered 9 or 10. They love the company's products and services. They are the repeat buyers, are the enthusiastic evangelist who recommends the company products and services to other potential buyers.

- The Net Promoter Score (NPS) is determined by subtracting the percentage of customers who are detractors from the percentage who are promoters. What is generated is a score between -100 and 100 called the Net Promoter Score. At one end of the spectrum, if when surveyed, all of the customers gave a score lower or equal to 6, this would lead to an NPS of -100. On the other end of the spectrum, if all of the customers were answering the question with a 9 or 10, then the total Net Promoter Score would be 100.
  Note: The people who gave a score of 7 or 8 are not included in the calculation.
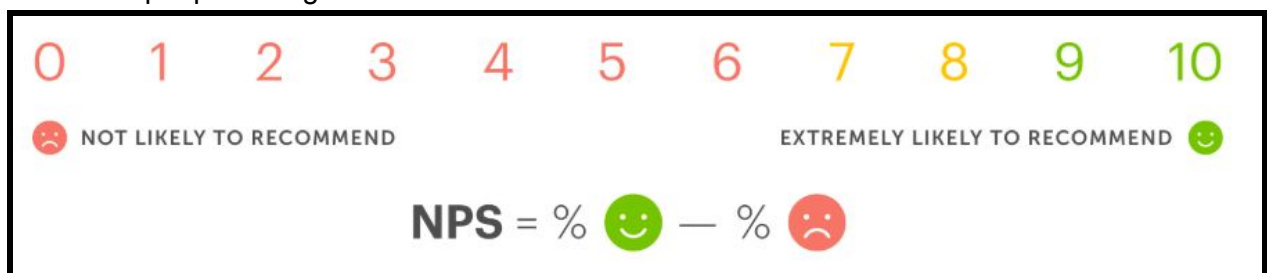
Post Test Debrief:
- Ask the following questions:
    - Describe this experience using only one word?
    - How would you explain this product/experience to your friend?
    - List 3 things you liked & 3 things you dislike.

Usability Test Session Outline:
- Greeting of participant
- Explaining study, roles, equipment • Interview & demographics
- Task performance
- Debrief participant
- Debrief observers

As a facilitator:
- Impartial, unbiased observing
- No teaching.
- Listen and watch.
- Ask open ended questions.

Facilitator Cues:
- "What are you currently thinking?"
- "Describe the steps you're going through here"
- "What do you think will happen next?"
- "Is that what you expected to happen?"
- "That was confusing?"
- "And you were expecting ...?"
- "Would you mind repeating that again?"