The goal for your final assignment is to write up a proposal and plan for a formative user research project. Throughout class, you have learned all the pieces of formative user research: data collection (e.g. field observations, contextual interviews, diary studies, etc.), data analysis (debriefing, work models, affinity diagrams), and reporting. In this assignment, you practice putting all of this together to produce a whole user research project.

# Setting: In-Home Speaker / Voice Assistant

For this assignment, pretend that you work for Microsoft. Microsoft has been hard at work on a voice assistant – an artificial intelligence program that listens to people talk and then responds to them. All of the major tech companies have one (Apple has *Siri*, Google has *OK Google*, Amazon has *Alexa*, and Microsoft has *Cortana*). Microsoft has had their voice assistant built into their Windows Phone for a number of years now, and it works quite well.

However, in the last year or two, a number of Microsoft’s competitors have released in-home standalone speaker assistants. Amazon began by releasing the “Echo” – a speaker that you can talk to. Google released the “Google Home”, and Apple has the “HomePod”. Some have screens, like the Google HomeHub or Amazon Echo Spot / Echo Show, and some do not.

* Amazon Echo: <https://www.youtube.com/watch?v=KkOCeAtKHIc>
* Google Home: <https://www.youtube.com/watch?v=2KpLHdAURGo>

Since it already has working voice assistant software (Cortana), Microsoft is interested in releasing one of its own standalone speaker assistants – but doesn’t know how people will use it. This is where you come in; your task is to plan out a user study that will help Microsoft understand what kinds of things people will use it for, and what features it should have. For example, should it have a screen, or just be a speaker? Microsoft hopes that this new product will be sold mostly to middle class to upper-middle class families in the United States for use in the home.

You are the leader of a user research team inside Microsoft. The company needs you to finish your research and report your results in the next 1-2 months. You will be working with a product group – a team of programmers, hardware designers, and product managers that will do the actual building of the new product. The product group will have expertise in audio (speaker design), AI (voice assistant), and app development (phone and computer apps).

They ask you to come up with a proposal for what research you will do to help out the company, and a plan for how to accomplish that research. You and your team (3-4 user researchers including yourself) will need to figure out what kind of research you will do and how best to communicate your results back to the product group.

Your task is to write up a project proposal and plan.

# Proposal and Plan Document

There is no page minimum or maximum for your proposal; normally they are about 3-5 pages long. Your proposal must include the following sections:

* *An executive summary*: A brief (1 paragraph) summary of the goals of the project, how much it will cost, and how long it will take.
* *Research goal*: A short, one paragraph description of the research goals. What, exactly, are you hoping to learn? How will your work contribute to Microsoft’s ability to create this new product? (Make an argument why your work will be valuable)
* *Summary of Approach*: How will you conduct this user research? Be specific: will you use field observations, contextual interviews, diary studies, some other method we learned, or some combination of those? How will you analyze the data – affinity diagrams, work models, or both? How will you present your findings – reports, personas, affinity walkthroughs, presentations? This section just states, at a high level, what methods you will use and **why** you chose those. (about 1-3 paragraphs)
* *Methods*
  + *Details of Data Collection*: Plan out your data collection. Who will you observe or talk to to collect data? How will you find those people? How much will you pay them? How long will you spend with them? How many people will you collect data from? How long will this take? Will all your participants be the same, or do you want to talk to different types of people? Think through what you will do, and be specific.
  + *Details of Data Analysis*: Plan out your data analysis. How will you analyze the data you collect? Will you take affinity notes and then organize them on an affinity wall? Will you create a flow model, or a sequence model? Will you statistically analyze survey results? How long will this take? Think through what you will do, and be specific.
  + *Reports*: How will you communicate your findings? Will you write a single report? Will you give a presentation of your findings to the product team? Will you create one or more personas or scenarios for the product team to use? Why? Think through what you will do, and be specific.
* *Timeline*: Create a overall timeline. You have 1-2 months to complete this project. What will you be doing when? If you spend 5 weeks collecting data, then do you have enough time left to analyze it? Plan out when you will do each part of the project, and how long it will take. (e.g. Days 5-10: Contextual interviews and debriefing (2 per day))
* *Budget*: How much will this cost? Plan out everything that you need and how much it would cost. Be sure to include things like: payments for recruiting participants, participant payments; materials for analysis (e.g. post-its, paper to hang on walls, printable labels, markers), cost of any travel needed (gas, hotel, flights, etc.). Don’t be stingy; if spending money allows you to do a better job, then spend the money and do the best job possible. Be specific. Also, include a total estimated cost.

# Estimated Costs

To assist you, below are some estimated costs. For anything not listed here (e.g. gas, post-its, etc.), you should use Google to figure out how much it would cost to buy it yourself.

### Recruiting Participants

* Recruiting subjects for a survey: About $5 per person to complete a survey of less than 15 minutes. About $10 per person to complete a 30-60 minute survey. You can specify basic demographics of the people who should complete the survey. (e.g. between 30 and 50 years old, 50% women)
* Recruiting participants for contextual interview or focus groups: For normal, everyday people, you can hire a company that will charge approximately $500 for every 20 people they recruit. If you have specific requirements for people, especially highly paid professionals, they may charge up to 2x-3x more. You can specify a location (such as within a major city); most recruiting companies specialize in a specific city that they are located in.
* Recruiting participants for a diary study: You’ll have to do this yourself; plan out a way to find people and get them to agree to be in your study. Costs may include paying for flyers, or advertising in a newspaper or online.

### Participant Payments

* For most normal people, expect to pay about $50 per hour as an incentive to participate in a contextual interview or focus group. People with high incomes or who are very busy often need more money to get them to participate.
* The $5 per person fee includes the incentive payment for survey participants.
* Diary studies usually have more complicated payment structures to try to incentivize people to submit regular data. See the textbook for suggestions.

### Materials

* For most everyday office materials, such as post-its, markers, large paper, or peel-able labels, find the cost on a major vendor (such as Staples or Amazon.com) and use that.

### Travel

* For some user research, you must travel to visit people – either by driving to their home/work (ideally), or by flying to another city/location and staying in a hotel. These expenses are paid for your employer; include estimates of them in your budget.
* For driving, assume $0.54 per mile driven to/from location. This includes gas and wear and tear on your car. If you don’t know exact locations, guess approximately how many miles total the driving will be.
* For flights, price out a reasonable flight on some travel website. Same for hotels if needed.

# Estimated Times

To assist you, here are some estimations for how long various user research tasks take. Assume that you are working full-time (40 hours per week) on this project:

### Contextual Interviews

* Normally, you spend about 2 hours per person with each participant. Additionally, after the interview is over, you spend about the same amount of time (2 hours) debriefing the interview. Most user researchers cannot do more than 2 contextual interviews in a day.
* Typically, either 1-2 people attend each contextual interview. So a team of 4 people can send 2 teams on 2 contextual interviews at the same time.

### Surveys

* It takes about a week to get a full set of responses from a survey.
* Don’t forget to plan time to write survey questions and pilot test them.

### Affinity Diagram

* As you learned, it takes about 1 full 8-hour day to create an affinity diagram for each 200 notes. Add a day for each additional 200 notes.
* A 2 hour contextual interview creates, on average, about 30-50 notes.
* Notes can also come from focus groups, diary studies, or field observations.
* You can partially build an affinity diagram, then collect more data, and then add the new notes into the partially finished affinity diagram. This is quite common.

### Personas and Scenarios

* It takes about 2-4 hours for a person to write a good persona or a good scenario, after you’ve completed other data analysis

### Consolidated Work Models

* For each type of model (e.g. flow model, cultural model, sequence model), expect it to take 4-8 hours (1/2 day to 1 day) to consolidate the models from individual subjects into a single, overall model.

### Reports

* Remember, writing takes time. Be sure to plan an appropriate amount of time for writing and refining any reports

### Planning

* Don’t forget to include time to plan out your activities, such as writing questions for focus groups, writing survey questions, organizing travel, scheduling meetings, etc. I usually expect to spend 1-2 days on this early in the project

# Team

You should include your time in the budget. Look up job ads to find a reasonable salary for a UX professional, and then budget your time based on that salary.

You can have up to 3 additional UX professionals work with you. Microsoft employs many such people you can work with. Expect them to have similar skills / training as yourself.

Also, include in the budget the salary of any team members working with you. How much of their time will you need?

Explicitly include estimates of how much time you need from your team members. You will probably be doing most of the work, but the team members can assist with things like making affinity diagrams, taking notes during interviews / focus groups, etc.

# Resources

You have access to a team of up to 3 user researchers (including yourself) that you are working with.

You have access to conference rooms in your company’s building that you can use for things like focus groups, affinity diagrams, or presentations.

You can easily purchase products made by Microsoft, such as Windows Phones or Microsoft Office. This may be useful as incentives for your participants.

You can always work with the product group (programmers and designers) and ask them questions. They usually work down the hall from you. This can help you clarify technical capabilities.

# Hints

You do not need to do everything. It is OK to pick a single data collection method (e.g. contextual interviews) and only do that. Choose carefully, and don’t do too much.

Don’t be stingy. Ask for the money that is necessary to do a great job. Don’t cut costs. It is better to spend the money necessary to do a great job than it is to save some money now and end up with a mediocre product. Remember: the difference between a good job and a great job might mean millions of dollars to Microsoft. They would rather you do the best possible job.

Time is more valuable than money. If you can save time by spending money (e.g. by paying someone else to recruit participants for you), that is probably a good tradeoff.

You can ask members of the product group (the programmers and such) to attend meetings if it will help. For example, you can ask them to attend some of the debriefing sessions, or you can ask them to help you make the affinity diagram, or you can ask them to help you walk the wall.