

## **User Research Protocol: Snow Removal**

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ME140: Inventive Design

### **1) Study Objectives**

The primary goal of this user research is to understand the specific challenges individuals face with existing snow removal methods. This includes gaining insights into their pain points, product preferences, and budget constraints. We want to learn specifically about costs, where individuals plan to store their devices, the current method that the pollee uses to remove snow, and the ideal snow removal method of the pollee. We also will ask some demographic questions so we can determine the demographic makeup of those that we poll to make sure that we are getting a sample representative of the target group that we want (people who have trouble removing snow with existing solutions such as elderly people, people with back problems, and people for whom a snow blower is too expensive to purchase).

### **2) Study subjects and methodology: Who will your subjects be and why have you chosen this group? Why is your chosen method (interview, survey, etc) appropriate for your project development? What is the recruitment plan?**

Our subjects will be people that we know from our hometowns. We are from different states across the northeast. The diversity of states can allow for a diverse group of people with different needs and different snowfall conditions. This group will include friends (younger age), parents (mid-age), and grandparents (older age). We will be able to see trends in these different groups to better narrow down a prototype that fits the needs of multiple user groups. We think a survey is the best method because we can easily reach more people with the possibility for more variability between answers in comparison to going door-to-door.

### **3) Study protocol: List the context, guidance, and questions that you will ask your interviewee or survey respondents. Use our lectures as guidance for protocol construction.**

**Guidance & Context** - Participants will be asked to provide demographic information such as their age range, location, and current snow removal practices. The survey will include multiple-choice, rank-based, and open-ended questions. Below are the specific guidelines and questions for each section:

**Questions will fall into the following categories:**

**Pollee Demographics:**

- What age range are you in?
- Where are you located (e.g., state, region)?
- Do you clear your snow yourself or does someone do it for you?
  - If you hire someone for snow removal, how much do you spend per session or per season?
- How much energy do you exert removing snow?
  - Do you have a preexisting condition that makes current snow removal methods difficult?

**Costs:**

- What is your ideal price range for a snow removal device?
- Rank the importance of the following in a snow removal device:
  - Cost
  - Amount of manual labor required
  - Size of the device
  - Ease of storage
  - The time it takes to remove snow
  - Ability to handle various snow conditions
  - Other: (Mention in Text Box)

**Storage**

- Where do you plan to store the snow removal product?
- How much space do you have available for storing such equipment?

**Current Snow Removal Method**

- Do you remove your snow yourself, or does someone else do it for you?
- How long does it typically take you to remove 3 inches of snowfall? Do you take any breaks?
- What are the usual snowfall conditions in your area (e.g., light, heavy, wet snow)?
- On a scale from 1 to 10 (1 being no effort, 10 being extremely difficult), how would you rate the physical effort required to clear snow using your current method?

**Ideal Snow Removal Method**

- What is the current product(s) that you use to remove snow?
- What are the pros and cons of the snow removal method or products you currently use?
- Are there any specific improvements or features you would like to see in the snow removal products you currently use?