Analyzing Data with AI to Improve the Streets of Harlem

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How can we use AI to effectively analyze data that provides information on improving pedestrian safety?

Introduction

Voice memos, note taking and other traditional research methods are time consuming and vulnerable to human error. Our app changes that. Through a Language Learning Model (LLM), the server analyzes interviews and organizes answers and questions making it easier for researchers to locate specific information. We used this app to gather our own data about senior pedestrian safety in Harlem. The app will help lay the foundation for future researchers to conduct research without limitations that current research methods have.

Methodology

1. Surveys: We asked the public how to improve user interface, resulting in us adding a pause feature and a revised demographic segment.
2. One on One Interviews: We asked members of a senior center in Harlem for their opinions on pedestrian safety, quality of public transportation, and potential improvements for both sectors.
3. Focus Groups: We asked the same questions as the one on one interviews. We interviewed a small group of people, and the interview played as more of a conversation rather than a formal interview.

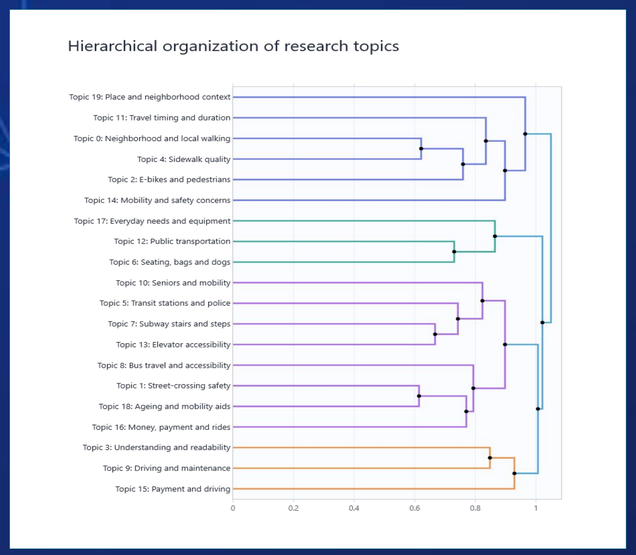


Fig 1: Hierarchical Organization of Research topics - Groups 20 interview topics according to their similarity

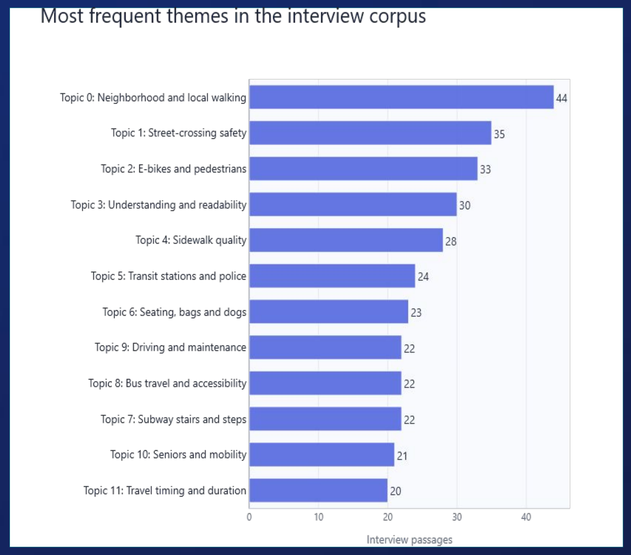
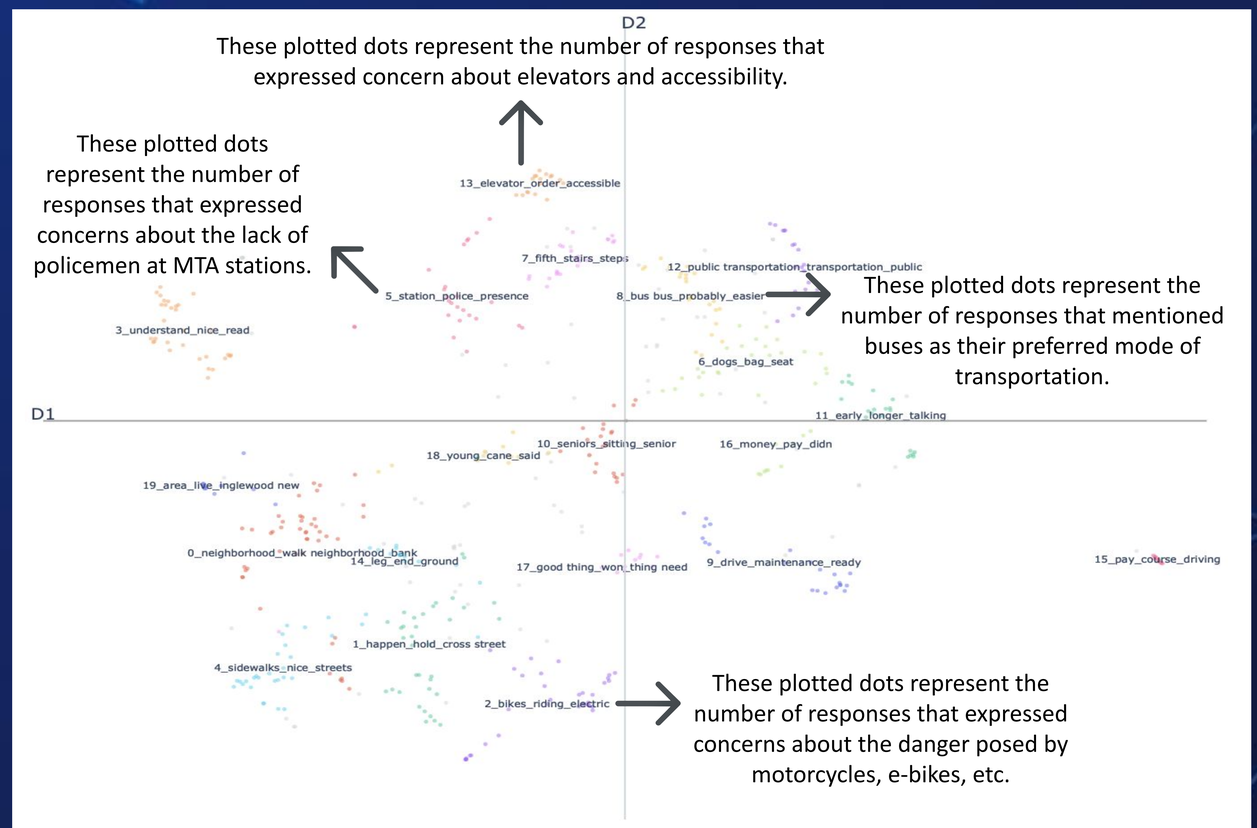


Fig 2: Most Frequent Interview Topics - Shows Biggest Concerns for Pedestrian Safety Within Harlem

Fig 3: Semantic map of interview - Shows different topics and themes of interviews



Results

We collected this data using our app and compared it to traditional research methods such as voice memos and note taking. These conventional methods proved to be less effective than our app. It was time consuming, prone to human error, and it was difficult to analyze the data effectively.

With our data we found the core aspects of Harlem streets that needed improvement such as sidewalk quality and the strict regulation of e-bikes. Additionally, we found common themes among different interviews where we figured out what needed reform. For example, there were many complaints about the lack of widespread accessibility, public transportation, and cleanliness. Using this information we will be able to bring meaningful change to the streets of Harlem.

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