Preliminary Construct Validity of the AccessTools Public Building Assessment for People with Disabilities

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Background

While the Americans with Disabilities Act established regulations for building accessibility [1], these are only minimal requirements, and many community buildings remain inaccessible [2]. AccessTools is an iOS mobile application that generates comprehensive information about building accessibility. Features of buildings are broken down into ten distinct categories detailing all aspects of a building's accessibility. This app, being developed by the Rehabilitation Research Design and Disability (R2D2) Center and the App Brewery at the University of Wisconsin-Milwaukee, is intended to be used by trained raters with a high degree of building accessibility knowledge to comprehensively assess the accessibility of community buildings [3]. To date, however, it has not been documented how relevant the assessment and its information are for people with disabilities.

Objective

This preliminary validity study aims to initiate the validation of the AccessTools taxonomy of questions for its relevancy to people within four different disability types: hearing, vision, mobility, and mild cognitive.

Methods

Researchers completed literature review, established a study design, and created recruitment materials before seeking Institutional Review Board (IRB) approval. Researchers applied to the IRB and, after revisions, received approval on February 15, 2021 (IRB # 21.220).

Twelve participants with hearing, vision, mobility, and mild cognitive impairments are being recruited from local disability organizations in Milwaukee including participants with mild, moderate, and severe disabilities in each category.

Methods are conducted using two main research mediums: Qualtrics survey software and the AccessTools mobile application. In preparation for participant data collection, two student researchers acting as expert raters coded the questions four separate times with the focus on a different impairment category each time. These expert data sets will be used to establish interrater reliability and to compare to those of the participants with disabilities after all data has been collected.

Participants will first complete a pre-survey to gather demographic data and ensure eligibility. After downloading the AccessTools mobile app, participants will review each question and rate them as "Not Applicable", "Somewhat Applicable", or "Applicable" based on their impairment. Once all questions have been assessed, participants will complete a post-survey to report the time spent reviewing questions and any additional comments or concerns.
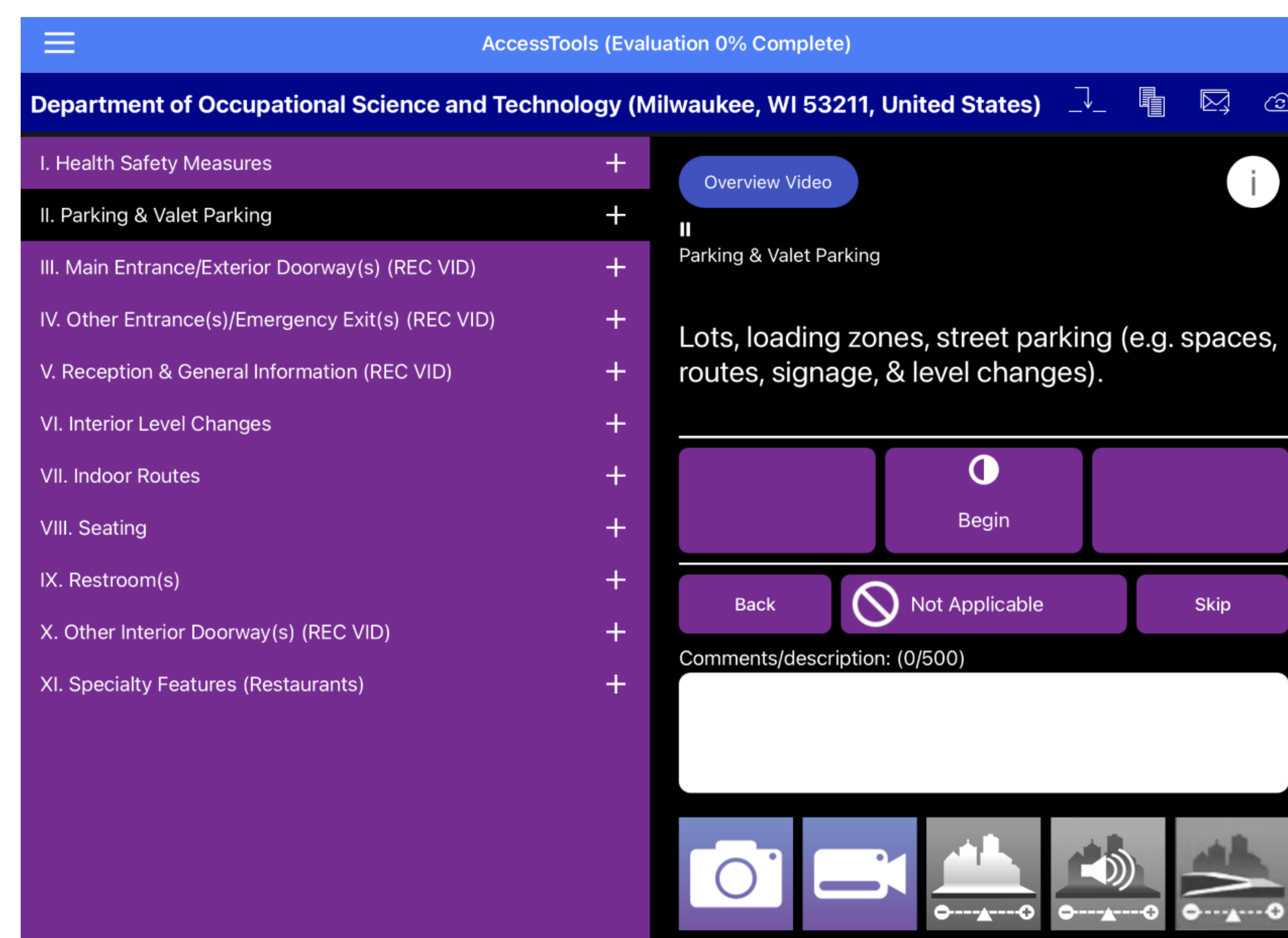
Instrumentation

AccessTools
AccessTools utilizes a Trichotomous Tailored Sub-Branching Scoring System (TTSS) that allows users to see the questions most relevant to the building they are evaluating [4]. The scale is "Applicable", "Somewhat Applicable", or "Not Applicable" which correlates to a score of 2, 1, or 0.

Qualtrics Surveys
The pre-survey includes informed consent, basic demographic questions, and screening questions. The post-survey asks about the participant's experience with AccessTools, including the time spent reviewing questions and any issues participants encountered.

Anticipated Results

The researchers hypothesize that the AccessTools questions are most relevant to specific individuals based on their impairment. This study will contribute to the construct validation of AccessTools. Additionally, if there is a high correlation between experts and participants with disabilities, it will provide evidence for including a personalization scheme for AccessTools reports and for related building accessibility ratings systems.

Literature Cited

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