Pathfinder

Overview

Pathfinder is a Java-based suite of tools for working with Pathfinder networks.

At present the suite consists of five data collection applications. The function of each data collection application is to collect proximity ratings for all possible pairings of terms from a predefined list. The collected ratings are written to disk in a format compatible with JPathfinder analysis software distributed by Interlink, including additional metadata such as the date and total elapsed time (in milliseconds) of the rating session.

Installation

Precompiled executables are available for Windows, Linux, and MacOS in releases.

If you wish to build from source, first ensure you have properly installed the necessary prerequisites:

1. Java SE Development Kit 23 (JDK 23)
2. Apache Maven
3. Git

Then clone this repository and package with Maven:

```
git clone https://github.com/the-mad-statter/Pathfinder.git
cd Pathfinder
mvn package
```

The above commands should produce distribution files under `target/dist/Pathfinder`.

Configuration

Each application utilizes a settings file in JSON format. Example files are provided in the distribution. While specific settings may vary from application to application, important, common settings include:

1. "terms"
    - a JSON array of terms, pairs of which will be rated
2. "instructions"
    - a JSON array of initial instructions for participants
3. "debriefing"
    - a JSON array of final instructions shown upon task completion

Rating Task Descriptions

Each task progresses through four steps (i.e., ID, Instructions, Task, and Debrief).

ID

Upon launching any given data collection application, participants are prompted to enter an identification code consisting of any alphanumeric characters. They are then required to re-enter the code for verification. If the two entries do not match, the participant is prompted to try again until a valid match is made. This step prevents input errors and ensures consistency, as the ID is used as the data file name.

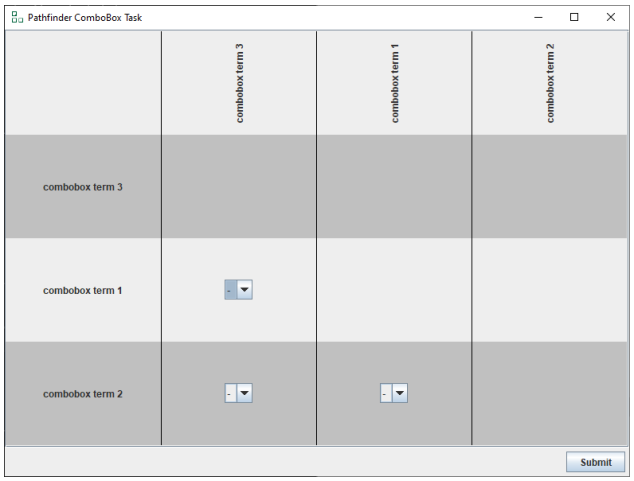
If a file with the entered ID already exists (e.g., `foobar.prx`), the software automatically appends a number to create a unique filename (`foobar1.prx`, `foobar2.prx`, etc.).

Instructions

Once the ID is confirmed, the participant views the starting instructions followed by the rating task.

Task

ComboBox

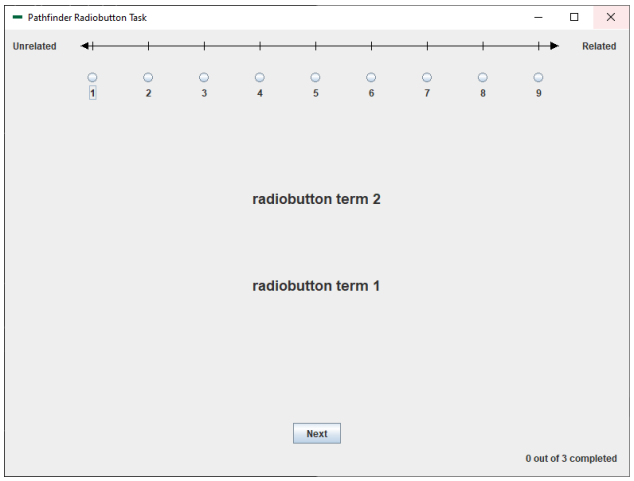


In the ComboBox task, all terms are presented on the screen in a grid-like fashion. Where one term's row and another term's column intersects, participants indicate their rating with a pull-down box.

Draggable

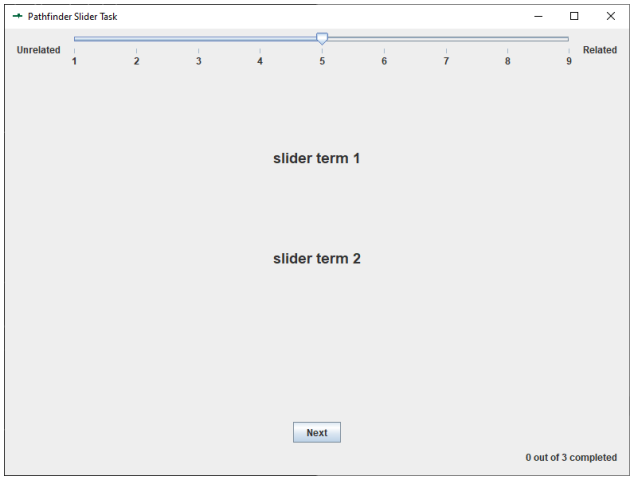
In the Draggable task, all terms are presented randomly on screen. Participants indicate their ratings by dragging like terms closer together and disparate terms further apart.

RadioButton



In the RadioButton task, participants are shown two terms at a time and indicate their rating with radio buttons.

Slider



The Slider task is similar to the RadioButton task, but a slider is used instead of radio buttons.

Target

The Target task is similar to the Draggable task, but there is a circular target with a central bullseye. The task consists of n − 1 rounds, where n is the number of terms. In each round one term is randomly selected and placed in the bullseye as the anchor term while other terms are displayed in random positions around the target. After a term has been used as an anchor, it will not be included in future rounds, and the next round selects a new anchor from the remaining terms. This continues until all pairwise relationships have been assessed through n − 1 rounds.

Debrief

After the rating task is completed, the debriefing instructions are presented in the same manner as the introductory instructions.

About The Mad Statter

The Mad Statter is a premier statistical consulting and programming firm dedicated to delivering rigorous, data-driven solutions tailored to meet the unique needs of researchers, businesses, and organizations. Combining deep expertise in statistics, advanced programming skills, and industry best practices, The Mad Statter empowers clients to unlock insights, optimize decision-making, and drive impactful outcomes.

Our services span study design, data management, statistical analysis, predictive modeling, and visualization, leveraging a wide range of software platforms and programming languages. Whether supporting academic research, clinical trials, market research, or operational analytics, The Mad Statter provides clear, actionable results with an emphasis on quality, transparency, and collaboration.

At The Mad Statter, we are passionate about transforming complex data challenges into streamlined, understandable solutions helping you make smarter decisions with confidence.