“ManySpaces: Sharing VR Environments for Studying Navigation”, Nora S. Newcombe

Tuesday, June 26, 14:00 to 18:00

Navigation researchers frequently use virtual reality (VR) environments to study the behavioral and neural processes that allow humans to find their way in the world. These VRs range from phone apps through desktop views with controllers to screen-treadmill setups to truly immersive. All of them utilize constantly evolving technologies and software. Historically, each navigation lab has evolved its own setup. These environments have been difficult to share and have often become outmoded or even disappeared altogether, e.g., Virtual Tubingen. Especially as there is an increasing focus on variation, both person-centered and environment-centered, there is an increasing need to standardize and share VRs, to enable the collection of data on psychometric issues such as reliability (of various kinds), validity (of various kinds), and comparability.

The aim of this workshop is to provide an opportunity for navigation researchers to compare notes and to build a user community that could jump start us towards bigger goals. For example, one goal to consider is building a continuing collaborative group to be called ManySpaces, along the lines of other “Many” projects, such as ManyBabies or ManyNumbers, or the common paradigms starting to be used by an international community studying decision-making in rodents (International Brain Laboratory, IBL). ManySpaces could jointly plan and execute shared data collections on issues such as task comparability that would be beyond the reach of any one laboratory. ManySpaces could also craft a funding strategy for sustainability, so that the work involved in building an assessment environment would not vanish.

The plan for a 3- or 4-hour workshop is to begin with 10- or 15-minute descriptions of what resources each lab has currently available. Each presenter would follow a rubric so that the group would gain basic information in a structured way. In a second period, small groups would experience each environment or experience (if possible) and try them out. The third phase would involve group debriefing and discussion about what they had heard and observed, including group Q and A. Finally, we would focus on planning for the next steps in establishing a user community.

The initial presentation rubric would include 1) technologies present in labs, 2) software used to power these technologies, which matters a great deal for sharing that would allow for people to modify what is shared, 3) populations regularly tested or able to be tested, and 4) tasks that the group has employed for measuring navigation. This sharing phase and the experiential phase that will follow it will allow the group to define topics that need the most discussion in breakout groups.

The product of this workshop will be a plan for crafting ManySpaces. We would analyze the opportunities and threats for the endeavor and select attendees willing to take the next steps.

The workshop is open to interested researchers, either to present or simply to participate in the discussion. When attendees indicate interest, we will send a questionnaire to assess what they would hope to share, if anything, and their goals for attendance.

Please email newcombe@temple.edu if you would like to attend this workshop.