

Development of VR system for testing library designs

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VR enables a controlled test method for library facilities



Fig 1. Interior of the VR library

Problem:

- Controlled testing is an important method often employed for web services development.
- Employing this method while providing library facilities is difficult, as it is expensive.

Our Solution: Virtual Reality (VR)

- Constructing a library in VR allows us to switch only the design of target facilities, such as interiors and signs.

VR system developed for testing library designs

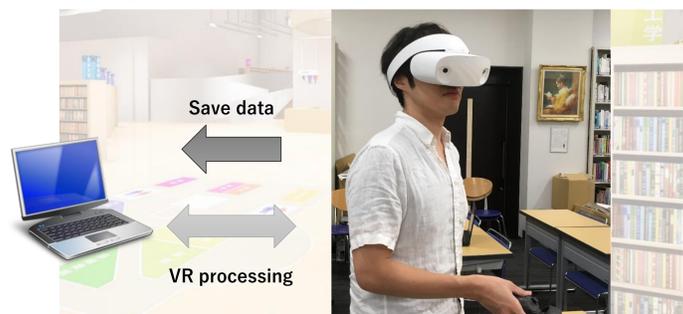


Fig 2. Overview of the VR system



Fig 3. Switching between selection displays



Fig 4. Navigating through the VR



Fig 5. VR library with Signs (Pattern A)



Fig 6. VR library with Signs (Pattern B)

System overview:

- Unity and Windows Mixed Reality software were used to design the system.
- Hardware such as Dell visor, controllers, and a VR-ready Windows laptop were also employed (Fig. 1).

How to use the system:

- The system aids in switching between the bookshelf signs (Fig. 3); subject signs can be switched between two patterns (Figs. 5 and 6).
- VR users navigate mainly using the controllers (Fig. 4). However, if a large space is available for the VR testing, users can walk through the library.

Shelf sign experiment using the system

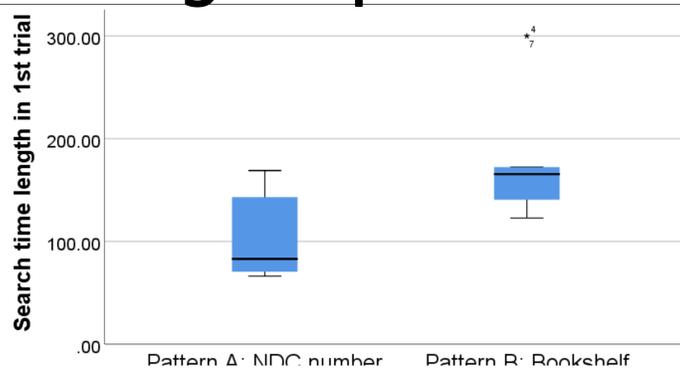


Fig 7. Search time recorded with Patterns A [Fig. 5 (left)] and B [Fig. 6 (right)]

Research overview: In all, 20 participants used the system, and the results displayed that signs featuring library classifications significantly reduced users' search time in comparison to signs featuring sequential shelf numbers.

Want to know more about this experiment?

Meet us again at ASIS&T 2019, Melbourne. Detailed results of this experiment will be presented at the poster session.