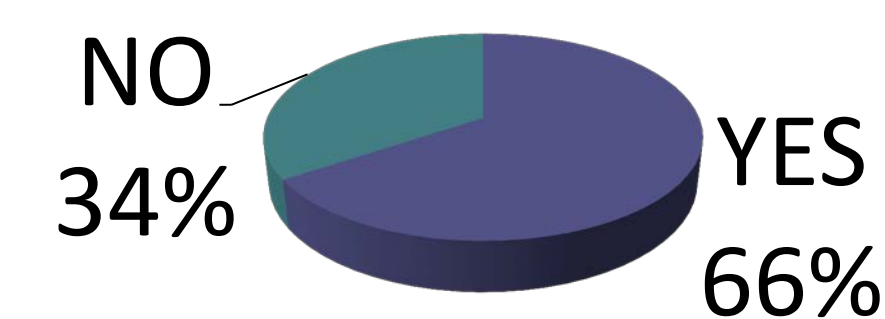# Library Seat Availability Checking System

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Introduction

At the University of Illinois at Urbana-Champaign, most students have experienced difficulties in finding a seat for studying or group discussing in the library. In addition, students are distracted from studying by people who are walking around for finding a seat in the library. We proposed a library seat availability checking system for users to check available seats in the library. We believe this problem is important because a good study environment will also improve the performance of the university.

Had you ever had difficulties in finding a seat in the library?

NO 34%
YES 66%

System Design

There are two major functionalities in the Library Seat Availability Checking System, checking preferred seats and searching available seats. Users can either log in and set up their own preferred seats to shorten search time or start a general search which is categorized by floor, area, seats type, and number of contiguous seats.

Swipe i-card or Log In → Choose favorite seats and browse the status of these seats ↔ Create a new favorite seat by choosing specific seat

Search Seats → Choose Floor by provided floor options with number of seats in formation → Use filters to check seats status effectively

Method

Non-experimental

Questionnaire & Observation

Asked 30 students who were studying in Grainger Library to answer the questionnaire

Observed behaviors of students while they were looking for a seat in the library

Collected and analyzed all data and designed our first prototype based on user behaviors and preferences
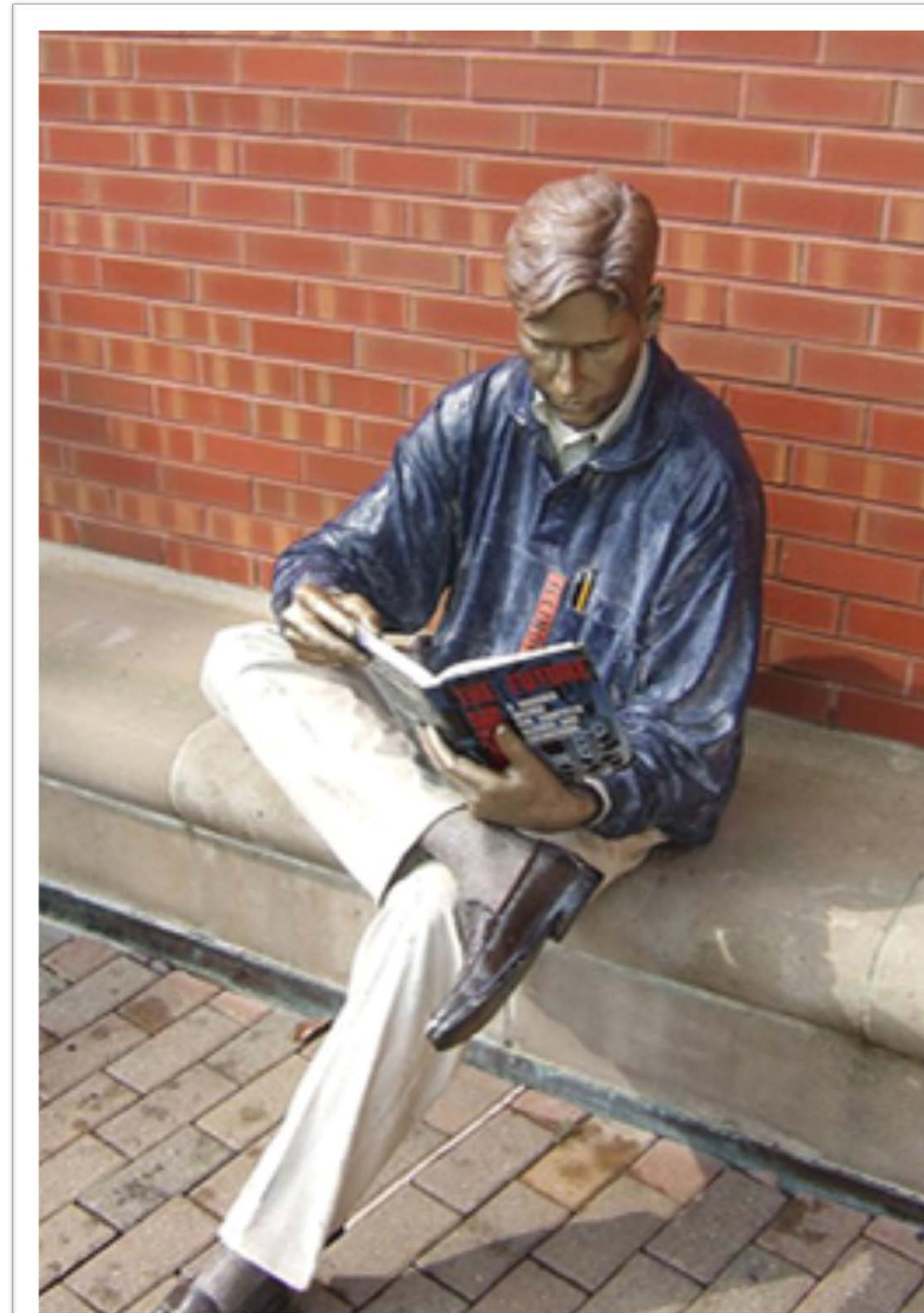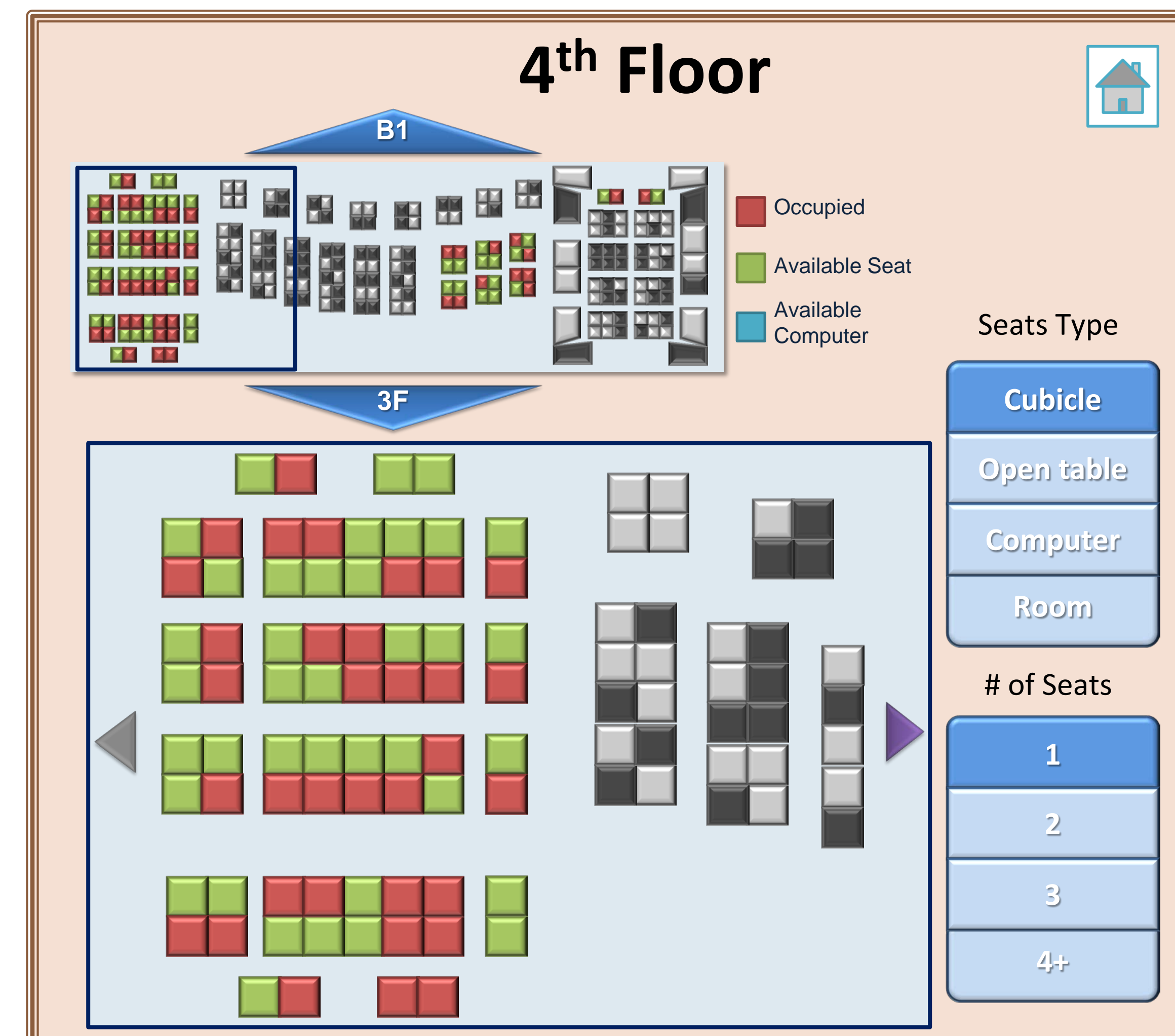
Experimental

Prototype Evaluation

Built a prototype based on the results of non-experimental method

Asked two subjects to finish four assigned tasks with our first prototype and observed user interaction with the interface with measuring time and number of clicks

Discussed with subjects about the overall experience with the prototype and the difficulties they found

4th Floor

B1

3F

Occupied
Available Seat
Available Computer

Seats Type

Cubicle
Open table
Computer
Room

# of Seats

1
2
3
4+

Results and Discussion

How beneficial would the Library Seat Availability Checking System be to students?

15 mins to find an available seat without system

30 secs to get used to the system → **Less than 15 secs** to find an available seat

In the experiment, the subject spent about 30 seconds to get used to the system interface. Later, two tasks were assigned to the subject: Find available seats in the library with the prototype. The subject completed both tasks in less than 15 seconds. During the interview after the experiment, the subject mentioned that on average he took 15 minutes to find a seat in the library during rush hour. With the system, he would save much time in finding seats in the library.

Recommendation

- Students need to save their time in finding seats in the library
- University has a responsibility to investigate and provide a better study environment

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