

Online Seat Assignment System for HKUST

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Abstract

HKUST is a well-established university with lots of classrooms and lecture theatres. However, seat assignment for students to particular room must be done manually.

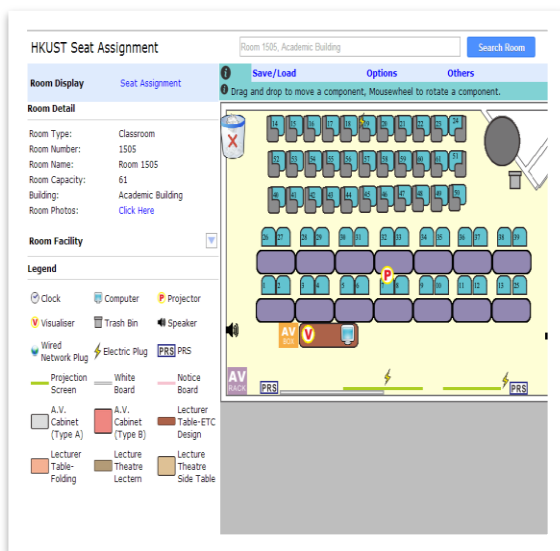
For this reason, **Seat Assignment System** is established, which provides a dedicated floor plan which can be arranged by the users, with an automated seat assignment.



The system has two interfaces. Administrative interface allows creation, modification or removal of floor plans and components inside rooms. The front-end interface is for general users to view the floor plan and assign seats.

Our **Objectives** is, with the use of this web-based system, users can **modify and save floor plans, as well as assign seats to students easily and conveniently.**

General Features



Display and Preview

2D floor plan and actual 3D photos with detailed information

Authentication and Interfaces

✓ Administrators

To **create, modify** or **delete** the default floor plan and detailed information.

✓ Logged in users

To **modify** and **save** customized floor plans.

✓ Public users

To **view** floor plans and room details only.

Seat Assignment

✓ Single Classroom

1. Sorting: Name, ID or Random
2. Additional: Alternate Seating
3. Grouping

✓ Multiple Classroom

1. Sorting: Name, ID or Random
2. Additional: Alternate Seating

Details

Room Suggestion

551

- Room 5501, Academic Building
- Room 5503, Academic Building
- Room 5504, Academic Building
- Room 5505, Academic Building

HKUST Se

Room photos from different angles



Shown or hidden objects

Room 1505, Academic Building

Save/Load **Options** **Others**

Table Chair Board/Screen Others Seat Number

Different Ways to load and save, Import and export



Modify floor plan

(including add and delete objects)



Change mode (Interactive/ViewOnly)

Save/Load **Options** **Others**

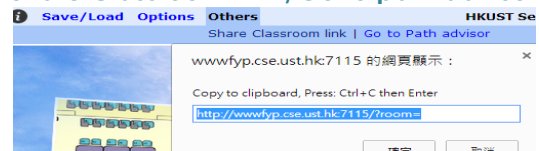
Save/Load **Options** **Others**

Seat number arrangement

Seat Number Ordering Preference:

- Left->Right, Bottom->Top
- Right->Left, Bottom->Top
- Bottom->Top, Left->Right
- Bottom->Top, Right->Left

Share Classroom link /Go to path advisor



Seat assignment

Room Display **Seat Assignment**

Seat Assignment Preference:

Sort By Name ▼

- Allow Multiple Classrooms Assignment
- Alternative Seating

Login / Logout

htchanag(Logout)

System Flow



Implementation

The system is developed using **HTML**, **AJAX**, **ActionScript 3.0**, **JavaScript**, **PHP**, **C++** and **Database**. The users can access the system using different browsers.



Evaluation

✓ **Testing** and **survey** were done according to the following four aspects:

1. Accuracy
2. Reliability
3. User interface
4. Latency

The results showing the system performance was **satisfactory**.

✓ The system works well under these browsers.



Conclusion

The system fulfilled our objectives of convenient web-based system. The performance is well under different scalability and situations.
