Project SmartClassroom

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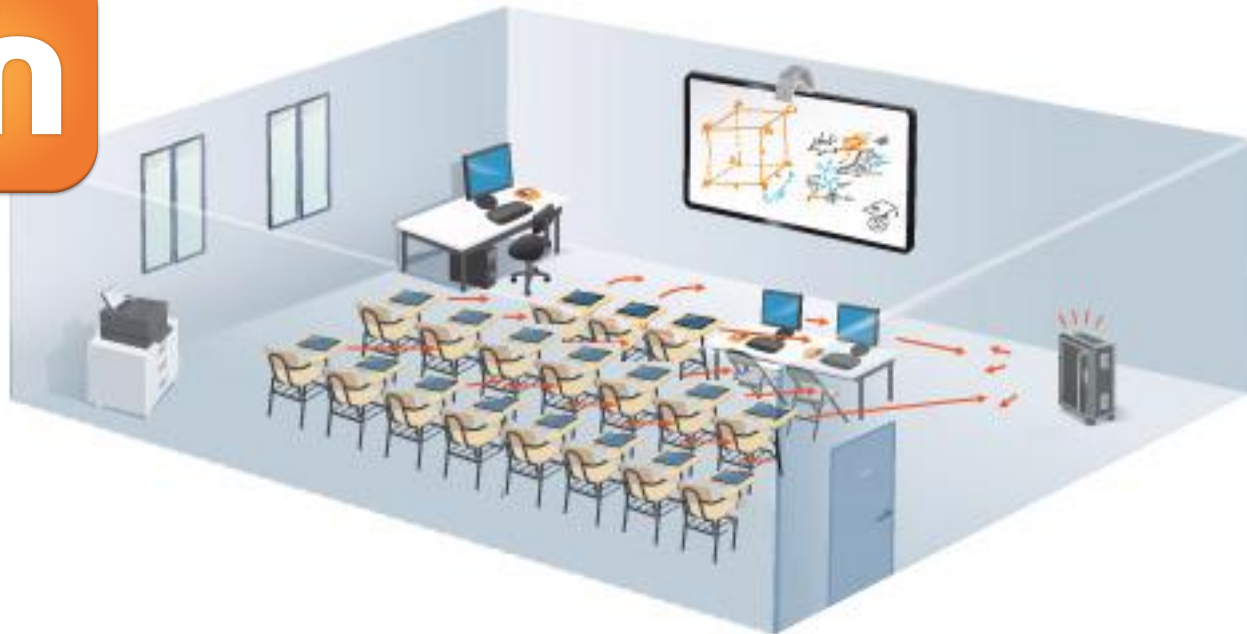
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Our work :
Moodle Authentication system

Technical specifications

Connection to Moodle account by means of the NFC tag

Allow classic connection (username and password)

Courses and MCQ modifications

Results display for each student

Attendance managment

Introduction : Technologies

Our productions

Connection using NFC tag or login/password

Server side:

- We modified the manual authentication module to enter either the NFC tag or the original password to log in
- The moodle server has to prevent the password change when the user logs in

Client side :

- We manage to get the NFC id and send it as a password
- We changed classic application behavior (login/logout)
- We no longer keep information about previous connection

Attendance managment & courses managment

- Auto attendance: we installed the auto attendance module already available

- We created some courses with a teacher account

- If a student accesses to a course during the session time, he's delared "present" or "late"

- However, we have to enter once again our login if we want to display the course (original behaviour of the application)

Difficulties

We didn't know which technology we should use at the first place

Lot of research done at the beginning

We had to modify a part of the server out of the plugin context in order to avoid the password reset at connection

We had to add some Cordova plugins in order to make the courses managment work

Assessment

- NFC and classic connection are working

- Courses can be accessed by students

- Student declared present if he accesses a course

- MCQ and Results display hasn't been settled (not enough time)

To go further :
- IP checking
- NFC security (signing)
- Synchronisation with students' schedule

Demonstration :
What we will show you

Connection with NFC tag

Classic connection

Connection using different tags

Sessions managment

Auto attendance to the course

Thank you for your attention

Do you have any question ?