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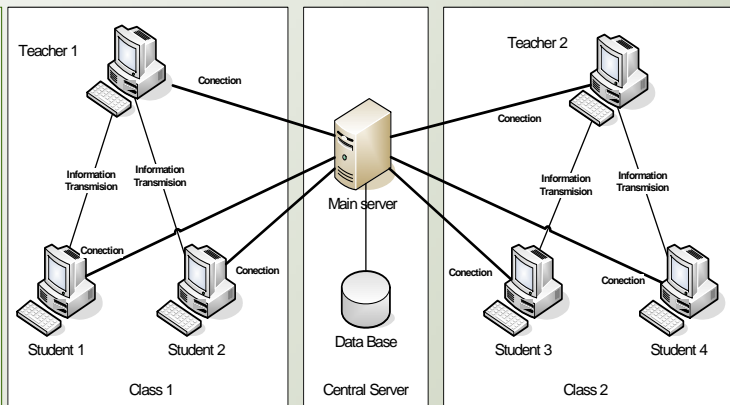
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## Introduction

Currently several tools exist that allow the people to contact with other people from the distance. Many of these tools include the functionality for video and audio communication to manage on-line conferences between geographically distributed partners. However these tools are totally open in the sense that any user has the same privileges as the others, so it is difficult for the leader-user to control the participation in a given conference. In this project we present a software tool that covers the following combined features: centralized control of connections to reproduce teacher functionality; efficient and interactive user friendly interface; historical record of connections and data transmission and free availability.

## Architecture

- Users are grouped by classes.
- To minimizing the amount of data sent and improves the efficiency, every class has its own server: the teacher.
- The main server is delegated to do some general coordination functions:
  - Authentication of users
  - General information distribution (list of classes, contacts info., ...)
  - Global file storage
- Because classes do not share the server, this architecture avoids disturbances between classes and also offers also a natural method to divide the classes.



## Platform characteristics

- User authentication by login and password
- Possibility of define and connect to different scholar centers
- Customizable user interface for teachers and students.
- Controlled access to the list of classes and contacts information (the students can only see the status of the teacher of every class).
- Control the access of the students to the class by means of teacher presence.

## Teacher Side

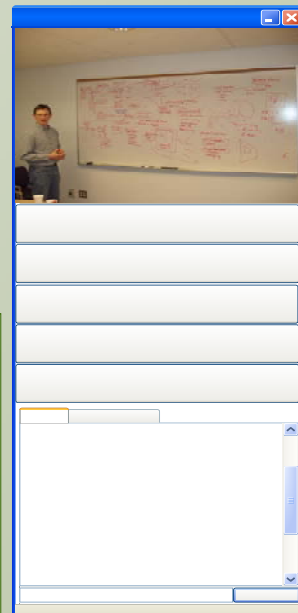
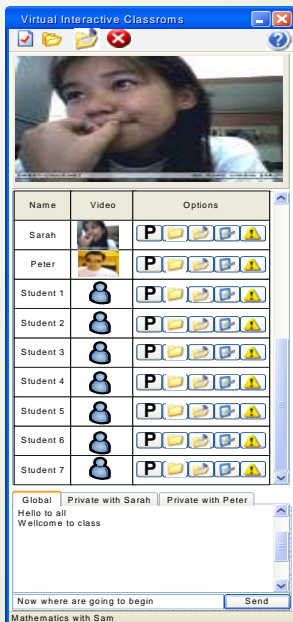
Deploys their traditional live class with controlled external participants:

- Student's list including status.
- Student individual video
- Zoomed video area
- Authorize student participation (voice)
- Distribute the work (file transfer)
- Controlled chat area: allows private communication with single users.
- Extra features: plug & play like (i.e. Virtual Whiteboard) with specific interfaces

## Student Side

Requirements needed to enable the student to participate in the class:

- User friendly
- Customizable.
- Full-classroom video
- Audio from the teacher
- Chat area to communicate with the rest of the mates.
- Request teacher attention & active participation in the class



## Conclusions

Internet and many other technological breakthroughs have enabled a revolution that allows educational contents can be deployed. In this work we report a software platform for synchronous distance learning created with the aim to help students to overcome limitations that would otherwise keep them from schools.

The system provides support to reproduce traditional teacher-functionality such as to enable or deny student access; full control of connections, coordination around the different students; etc.

This tool has been tested in real cases with children from the "Asociación Malagueña de Hemofilia" with promising results. The participation of learners, psychologist, computer-science technicians and teachers has allowed a very simple but powerful way to integrate our children in the educational system.