VIRTUAL CLASSROOM TOOL

Outline

- What is virtual classroom?
- Properties of virtual classroom
- Real classroom vs. virtual classroom
- Advantages

Virtual Classroom Overview (1)

- **What is virtual classroom?**
    - distance learning
    - multimedia facilities
    - from trainer to multiple clients

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Virtual Classroom Overview (2)

- **Properties**
    - physical distance
    - technology
    - network broadcasting
    - interaction with the students
    - preparation, online editing and offline replay of the courses

- Real classroom vs. virtual classroom

Chalkboard - Whiteboard

Pencil - Multimedia Pointer

Video Cassette Recorder - Multimedia

Teleconferencing - Audiovisual System

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Virtual Classroom Overview (4)

- <u>Advantages for</u>
  - adults with a second chance at a college education
  - those disadvantaged by limited time
  - those with distance or physical disability
  - workers at their places of employment

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Project Groups

- 4DsmarTech
- InnovationTech
- PDC
- PIT
- Sersoft

KLAS

Outline

- Group members
- Project objectives
- Hardware requirements
- Software requirements
- Software overview
- What makes KLAS different?
- Summary

Group Members

- Mehmet Akif TAŞKIRMAZ
- Abdullah ÖZTÜRK
- Fırat KIZILER
- Serhat MEŞE

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Project objectives

- synchronous multimedia transfer
- multimedia facilities
- network broadcasting
- multiple clients
- offline replay of the courses

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Hardware Requirements (server)

- Processor: P4 1.5 GHz
- System Memory: 512 MB
- Video Memory: 32 MB

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Hardware Requirements (client)

- Processor: PIII 1.0 GHz
- System Memory: 256 MB
- Video Memory: 32 MB
- Video camera

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Software Requirements

- MS Windows 2003 Server Enterprise
- MS Windows XP Professional
- MS SQL Server 2000
- MS Windows Media Server
- MS Windows Media Encoder
- MS Windows Media Player 9.x
- MS Internet Information Server
- MS Office 2000 or higher

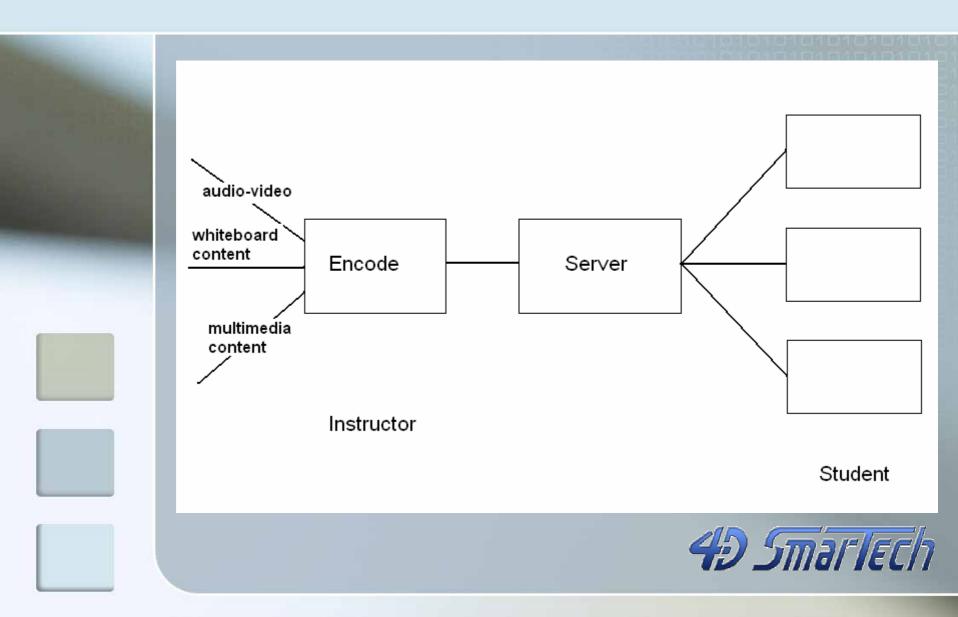*4D SmartTech*

Software Requirements (cont.)

- DirectX 8.1 or higher
- Macromedia Flash Player

Development environment:
- MS Visual Studio .NET 2003
- .NET Compact Framework

Languages:
- C#, ASP .NET

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Software Overview (Basic Architecture)

Software Overview (Basic Components)

KLAS has the following basic components:

- audio & video
- whiteboard
- multimediaboard
- broadcast
- chat
- help
- newsgroup

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Components

Audio-Video

- getting video content from the camera
- sending it to the encoder
- displaying the video content coming from the server

Whiteboard

- free-hand drawing and geometric shape drawing
- sending the whiteboard content to the encoder
- displaying the whiteboard content

Multimediaboard

- opening slides and animations
- sending the multimediaboard content to the encoder
- displaying the multimediboard content

Broadcast

- synchronization between audio video, multimediaboard and whiteboard components

Chat

- Enables clients to chat
- Subcomponents:

  - public chat

  - private chat

  - asking question

Help

- help is for usage of KLAS
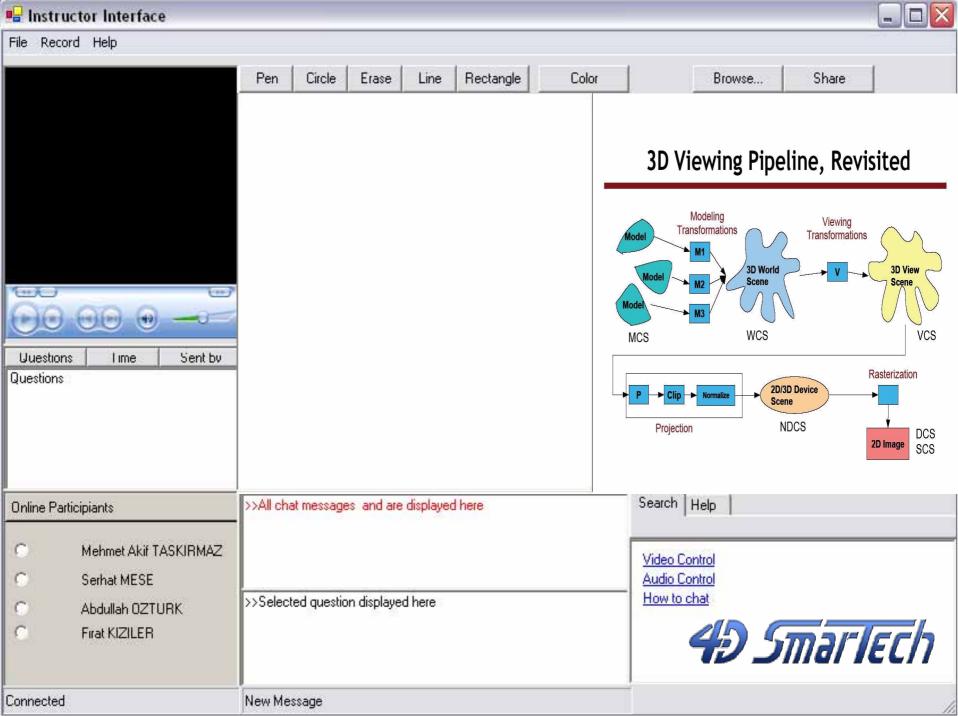- displaying help content according to mouse position or search string

Newsgroup

- independent from the application
- web based

Instructor Interface

| Pen | Circle | Erase | Line | Rectangle | Color | | Browse... | Share |

Questions | Time | Sent by

Questions

Online Participants

- Mehmet Akif TASKIRMAZ
- Serhat MESE
- Abdullah OZTURK
- Firat KIZILER

>>All chat messages and are displayed here

>>Selected question displayed here

Search | Help

Video Control
Audio Control
How to chat

4D SmarTech

Connected   New Message

Instructor Interface

File　Record　Help

| Pen | Circle | Erase | Line | Rectangle | Color | | Browse... | Share |

Questions | Time | Sent by

Questions

Online Participants

○　　Mehmet Akif TASKIRMAZ

○　　Serhat MESE

○　　Abdullah OZTURK

○　　Firat KIZILER

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3D Viewing Pipeline, Revisited

Modeling Transformations

Viewing Transformations

Model   Model   Model

M1   M2   M3

3D World Scene

V

3D View Scene

MCS   WCS   VCS

P   Clip   Normalize   2D/3D Device Scene   Rasterization

Projection   NDCS

2D Image   DCS   SCS

Questions   Time   Sent by

Questions

Online Participants

Mehmet Akif TASKIRMAZ

Serhat MESE

Abdullah OZTURK

Firat KIZILER

>>All chat messages and are displayed here

>>Selected question displayed here

Search   Help

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Student Interface

Online Participiants

- ○ Mehmet Akif TASKIRMAZ
- ○ Serhat MESE
- ○ Abdullah OZTURK
- ○ Fırat KIZILER

>>Private messages displayed here

>>Public messages displayed here

>>All messages and questions are written here

Send All

Send Priv

Question

Search | Help

Video Control
Audio Control
How to chat

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Connected

New Message

What Makes 'KLAS' Different?

- Free-hand drawing on whiteboard
- GPRS accessible newsgroup
- Animation display on multimediaboard

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Summary

- Virtual classroom overview
- Project objectives
- Hardware requirements
- Software requirements
- Software overview
- What makes KLAS different?

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Contact Info

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Any questions?

"Asıl olan, farazi olguları düşünce ve yaşayışımıza yerleştirmek değil, sağduyu sahibi insanlar olarak, rahatlığı, devrin sağladıklarını da kullanarak insanlığın esas gerçeğinde muhafaza etmektir."

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