

5/6/04

Extension of UW Classroom Presenter

RTCS - HW6

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Problem :

The UW Classroom Presenter supports a single Presenter presenting a session and multiple Viewers. We implemented a Collaborator mode where multiple collaborators control the presentation together as if each is a Presenter in itself.

Features to be implemented :

- Allow all Collaborators to control navigation of the Presentation
- Allow simultaneous inking by each Collaborator
- Allow control over features of the presentation like background color.
- Allow multiple decks to be opened by different Collaborators.

Model :

One Collaborator starts the presentation and other Collaborators connect to it. Actions from the other Collaborators are sent as messages to the first Collaborator. Actions from other Collaborators and its own are broadcast to every other Participant. Thus Collaborator has capabilities and properties of both Presenter and Viewer in parts.

Solved issues :

- Allow all Collaborators to control navigation of the Presentation
- Allow simultaneous inking by each Collaborator
- Allow control over features of the presentation like background color.

Individual Contributions :

Soma :

Proposed the overall model of having one Collaborator receive all commands from the other Collaborators and broadcast it for benefit of all other Participants

Implemented the first collaborative feature of control of background color which was used for subsequent features implemented. It was implemented using a new message type which would be handled by the Collaborator-Presenter (Collaborator that opens the deck and starts the presentation) and be sent by Collaborator-Viewer (Collaborators which join onto the presentation)

Anubhav :

Proposed how the code is differentiated between the Collaborator-Presenter and Collaborator-Viewer by checking the PresenterID (set by the Collaborator which opens the presentation , ie the Collaborator-Presenter) being equal to own id (true for Collaborator-Presenter and false for Collaborator-Viewers).

Added Collaborator to the menu of Presenter interface and enabled the threads which are started in Presenter and Viewer modes as Collaborators are in a way both Presenter (Send broadcast messages) and a Viewer (receive commands from the Collaborator-Presenter update their own state).

Implemented navigation control by different presenters by having the Collaborator-Viewers send the new page index to the Collaborator-Presenter which broadcasts it to all Participants.

Collaborative Contributions (Anubhav & Soma) :

Implemented inking by having the Collaborator-Viewers send the stroke to all Participants and let all participants process this message irrespective of who sent the message – (usually all participants check if the sender-id is equal to the presenter-id and only then process it. We disable this for strokes)

Future Work :

Allow multiple decks to be opened by different Collaborators and be sent to the Collaborator-Presenter. The way it can be implemented is to let Collaborator-Viewer to send new decks to the Collaborator-Presenter and let it broadcast to all Participants.

References :

- <http://msdn.microsoft.com/>
- <http://www.devarticles.com/c/a/C-Sharp/Event-Handling-With-C-sharp/>
- The C# Programming Language - Hejlsberg, Wiltamuth & Golde. Microsoft.NET Development series – Addison Wesley 2004