

Tablet PC Capstone CSE 481b

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Course goals

Why a Tablet PC Capstone?

Course Model

- TPCSoftware
 - New software company planning several products around electronic note taking
 - Management has identified candidate products
 - Develop a set of proof of concept prototypes
 - Evaluate potential applications
 - Performance review of developers

Logistics

- Sign up for the course mailing list
- Project ideas will be presented next
 - Fill in web survey expressing preferences by noon tomorrow (Jan 5, 2007)
 - If you have problems, contact cmprince@cs
 - Assignments will be announced Tuesday, Jan 9.

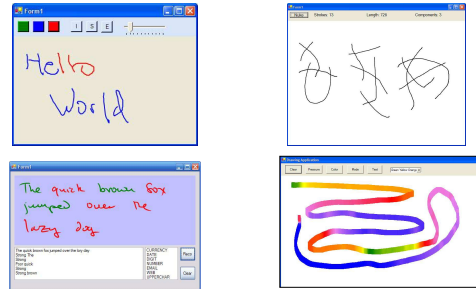
Schedule

- January 23. Project vision
- February 8. Early prototypes
- February 22. Alpha version
- March 9. Projects due – 6pm
- March 12. Final project demos, 10:30am-12:20 pm

Presentations

- Each team will give a 18 minute presentation at each of the check points
- Groups will meet with course staff following these presentations

Homework Assignments



Writing requirement

- Three short papers
- Feb 5, Midterm reflective statement
- Mar 5, Project component description
- Mar 14, Final reflective statement
- Homework and writing assignments are individual assignments

Logistics

- Department Lab Machines
 - Most Tablet PC development can be done on a Windows XP desktop machine
- CSE 003D, Tablet PC Lab
- Tablet PCs from Loaner Pool (Toshiba)
- Old Compaq Tablet PCs

Development Tools

- C#, Visual Studio, Windows
- Version control
 - SVN recommended
- Other tools are recommended
 - Team portal/website
 - Bug Tracking

Team Structure

- Teams are assigned by instructors
- Each team must choose a PM
- Teams may choose their own structure
 - But should have some structure
- All team members are expected to contribute
 - But contributions may be different

Note taking

- Note taking **could** be the killer app for the Tablet
 - But you don't see many people using the Tablet for notes
- There are a number of good note taking programs for the Tablet
 - Windows Journal
 - OneNote

Why paper is better than the Tablet

Digital notes

- Tablet based note taking attempts to duplicate paper based note taking
 - There are drawbacks
 - And very few advantages
- The one advantage of digital notes is that they are digital!

Suppose all the notes you have ever taken were accessible to you . . .

- The (potential) advantage of electronic notes is after they have been taken
- Current note taking systems offer limited support for working with notes
 - Journal – simulate paper
 - OneNote – structuring and organizing notes

Projects

- Components of a system for working with a large collection of digital ink notes

Information Extraction and Search

- Search for content – identify specific information
- Specific types of information
 - Phone numbers, URLs, email addresses, todo lists
- Specific types of note content
 - Lists, Mathematics, Drafts, Brainstorming, Pseudo code, Doodles, . . .

Clean up and Editing

- Handwritten notes are hastily written, without regard for structure
- Post processing can greatly enhance long term usability
- Approaches
 - Manual
 - Automatic
 - Semi-automatic
- Project should take advantage of structure of notes
 - Should be more than just an ink manipulation tool

Visualization

- How would you visually scan a term's worth of course notes?
- Visual search can be very efficient
- On-line notes allow non-linear display and content modification
- Possible approaches
 - Multi-resolution viewing with content classification
 - Enhancement of titles and key words

Write anywhere/ view anywhere

- Personal note publishing infrastructure
- Key problems:
 - Notes taken from multiple machines
 - Want to access notes from multiple machines
- Web based
- Possibly targeting multiple devices

Project requirements

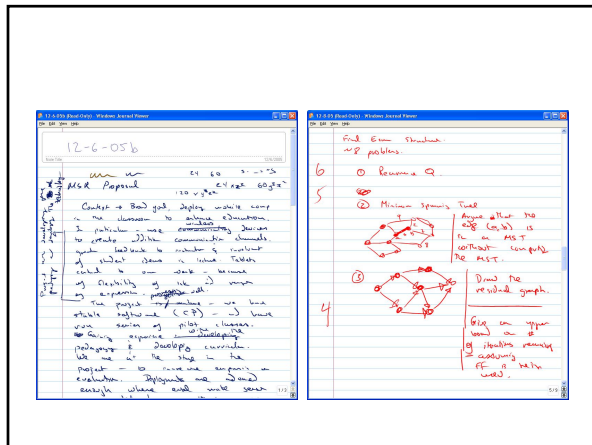
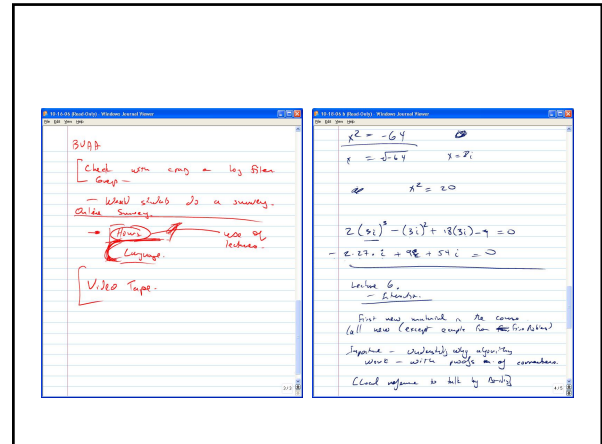
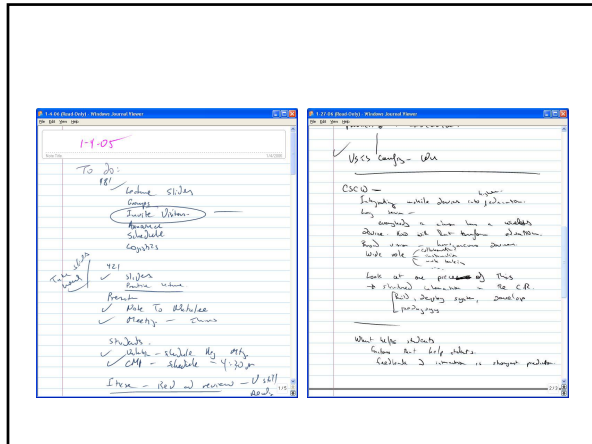
- Large amount of flexibility on each of these projects
- Aim for including a Wow! factor
- Demonstrate on large, real world data set
- Final demo is important
 - Make a pitch to turn your prototype into a product
 - Show something that works
 - Present compelling scenarios

Practical issues

- Use Windows Journal as a source of notes
 - There is a .JNT to Tablet PC ink interface available
 - Not necessary to export to Journal
 - Don't reinvent a note-taking system
- Lots of flexibility in how you do the project
 - Projects should include a Pen based UI (but there is a lot of flexibility on how far to take this)

Note collection

- RJA's Journal notes – Feb 2005 – Dec 2006
- To be interesting – solutions must handle
 - A large amount of data
 - Realistic, messy, unstructured writing



Project grading philosophy

- What do you want to get out of the course?

Grading criteria

- Prototype
- Deadlines and Presentations
- Code quality
- Design methodology
- Project Architecture
- Testing methodology and execution
- Engineering quality
- User Interface
- Release quality
- Development process
- User and technical documentation
- Technical Innovation
- Business Case for Application
- Integration with other Projects

Grading Implementation

- Initial weights
 - Prototype 40
 - Deadlines and presentation 10
- Assign remaining 50 points to at most 4 components
- Team evaluation criterion
- If team members don't agree on evaluation criterion, the default is 85:15