Course goals

Tablet PC Capstone
CSE 481b
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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

- 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