



ClassInHand™ Software

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This manual contains documentation for using the ClassInHand™ software. Both the software and this document are beta versions. We welcome your comments, feedback and suggestions. Please visit our web site at <http://classinhand.wfu.edu> to download the software and updates to this document.

Though every effort has been made to ensure that this documentation is accurate and is a true representation of the software itself, Wake Forest University assumes no liability for errors contained herein.

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ClassInHand™

Academic Software for PocketPC
Developed by the Information Systems Research and Development Team
Wake Forest University



ClassInHand™ User Guide

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Overview

The emergence of wirelessly connected handheld computing devices has caused educators to take a new look at how technology can support teaching and learning in meaningful ways. The value of creating an engaging and exciting learning atmosphere for students is undeniable. Students benefit from collaborative learning experiences, exercises that encourage critical thinking skills, formative assessment with immediate feedback, and an environment that enables them to be active participants rather than passive observers.

The ClassInHand™ software for PocketPC enables you as an instructor to create this kind of environment without requiring you to invest an unreasonable amount of time in acquiring technical skills or arranging for technical support. Your imagination and creativity are your most powerful tools in using this software.

ClassInHand™ turns a PocketPC equipped with a wireless card into a web server, a presentation controller, an assessment tool, and a feedback device for a classroom instructor or for any speaker making a presentation to an audience. Software features include the following:

- **Presentation capabilities:** The presentation feature allows the instructor to use ClassInHand™ to browse to, select, start, and control a PowerPoint presentation residing on a computer connected to a presentation projector. The PocketPC not only becomes a remote control for the presentation, but also displays the slide text and speaker notes on the PocketPC screen. These features free the instructor to roam around the room during the presentation, and to face the audience without having to refer to the presentation screen to see the next point he or she wishes to make. A simple, easily installed Presentation Agent that enables the presentation computer to communicate with the PocketPC is included as part of the ClassInHand™ software.
- **Portable web server:** The PocketPC becomes a portable, instant-on web server that is very easy to manage and is under complete control of the instructor. The instructor can start and stop the web server with simple taps on the screen, and move files from his or her computer to the server by just copying them to the PocketPC folder on the computer's desktop (no need to know or understand FTP). Students can access pages on the web server any time that the instructor has started it. The index page contains links that enable students to use the following features:
 - **Text feedback:** Students can submit questions or comments to the instructor during a lecture or presentation by accessing the Feedback page on the web server. Text shows immediately on the instructor's ClassInHand™ screen, and the instructor can make a decision as to whether the question or comment should be addressed at that time or saved until

later. The software saves all feedback for a particular session in a text file that can be read later.

- **Quiz:** The Quiz or Concept Test feature enables the instructor to pose a question and multiple-choice answers for the class using the quick interface in ClassInHand™. Questions and answers can be set up in the software prior to class. Using screen taps, the instructor manages whether and when links for questions appear on the ClassInHand Concept Test page in students' browsers. As students submit answers, the instructor can view the results in bar graph form on the PocketPC and optionally show the results page to the class through the classroom projection equipment. This feature enables the instructor to quickly assess the students' comprehension of the topic in question and proceed with either review or a new topic.
- **Feedback meter:** Another form of feedback allows students to submit numeric ratings ranging from –10 to 10 to measure comprehension, agreement, or any other factor that the instructor wishes to measure over time. It can be used as a formative assessment tool by assigning numeric values to multiple-choice answers. Submissions show moment-to-moment as a continuous curve on the instructor's PocketPC screen.
- **Security for presentation control:** A built-in PIN system for the Presentation Agent and the ClassInHand™ software ensures that the instructor's PocketPC is the only one that can control the presentation.
- **Authentication capability:** The instructor can easily set up and manage an optional authentication mechanism that controls access to files placed in the *authusers* folder (provided with the software), allowing the instructor to limit access to materials using a login and password combination. This capability is of course available on traditional web servers, but typically requires that a server administrator perform these tasks. ClassInHand™ removes the administrator from the picture and allows the instructor complete control through a simple interface.
- **Web Server Administration:** The software includes optional web server administration features for those who understand and enjoy such tasks. These include the capability to log and review who is accessing the server and to track the number of hits to the server.
- **Help Files:** Help files for all functions are available on the Web Server screen by tapping the ? icon.

ClassInHand™

Section 1

Web Server

Overview

The ClassInHand™ software makes your PocketPC a web server that is completely under your control and completely portable within range of your wireless network. The simple interface gives you an instant-on, instant-off server that requires no technical skills to administer. You can easily put materials on this server using the synchronization feature of the Pocket PC and just as easily remove them. Your students use their desktop, laptop, or hand-held computers to access the links and materials on the server only when you choose to make them available by turning the server on.

The primary purpose of the ClassInHand™ web server is to support the Quiz, Text Feedback, and Feedback Meter functions that will be described in later sections. The “home page” and subsequent web pages needed for these functions are included as part of the ClassInHand™ installation.

You can place additional pages on the server for students to access as web pages. You can also place pages on the server that require a login and password of your choosing. These are much easier tasks with the ClassInHand server than with traditional web servers. See instructions beginning in section 1.4 below for more information.

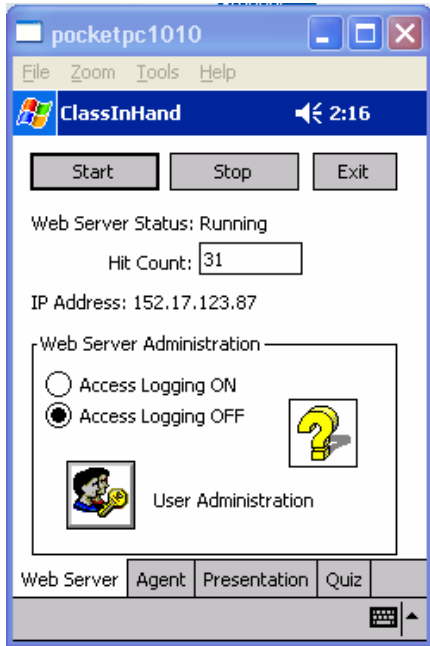
Optional web server administration features allow those with more curiosity and technical expertise to log and monitor who is hitting the web server. See Section 7 for a description of these features and instructions for their use.

Aside from the links to standard ClassInHand™ features, some suggested uses of the web server include the following:

- Put information that you want students to have only during class on the ClassInHand™ server. The materials will be available to your students only when you start the server, and will become unavailable again as soon as you stop the server. With ClassInHand™, you are in control.
- Typing URLs from a list into a browser can be an error-prone and frustrating task. Rather than giving your students a list of URLs you wish them to visit, create the list as a web page using MS Word and post it on the ClassInHand™ web server. Students can simply click on the links on this page and go to the sites you wish them to visit.

Instructions for all suggested uses follow.

Instructions



1.1 Starting the web server

To start the server, choose ClassInHand™ from the Start Menu on the Pocket PC. Tap the START button on the splash screen. Note that the Web Server tab is selected at the bottom of the screen. To start the web server, simply tap the Start button. The screen will always show you the status of the server (Started or Stopped), and the IP address of the server.

1.2 Stopping the web server

To stop the server and make the information it contains unavailable to your students, tap the stop button.

Students use their browsers to access the ClassInHand functions, and thus will need the URL for your ClassInHand™ home page. This is simply the IP address of the device, which is displayed on the Web Server page, as illustrated above. For example, if your device's IP address is 155.11.22.33, you should give students the URL <http://155.11.22.33>.



1.3 The Student's View: Upon typing in the URL students see this web page, the home page for your personal server, containing links to the pages needed for the text feedback, feedback meter, quiz or concept test, and login features described in later sections.

If you enjoy working with html, you can modify this page by editing the index.html file in the www-root folder of the My Documents folder. The easiest way to accomplish this is to find the file in the PocketPC My Documents folder on your desktop computer, edit it as you would any html file, and synchronize it back to the PocketPC. For more information, see Appendix B.

1.4 Placing your own pages on the server

You can make MS Word, Excel, html, and PDF documents available to your students. Create the documents as usual on your desktop or laptop computer, copy and paste them to the www-root folder in the Pocket PC_My Documents folder on your desktop. Synchronize the Pocket PC with the computer. Note: For best results with Word and Excel documents, use the "Save as Web Page" option when creating the files. For more information, see Appendix B.

1.5 How your students access unsecured files on your server

Note that the Web Server screen shows the IP address of your ClassInHand™ web server. You will need to give this IP address to students to use in accessing your documents. For example, if your IP address is 155.11.22.33 and you put a file named references.pdf in the www-root folder, you give your students the following URL to access this file:
<http://155.11.22.33/references.pdf>.

If you prefer to write html code, you can modify the index.html page to add a link to the references.pdf document or whatever documents you wish to place there for students.

You control access to these documents through choosing when to give students the names of documents you have on the server and through when you start and stop the server. To ensure that you maintain control, there is no capability for students to browse a directory of files on the ClassInHand™ server, as they can with traditional servers.

1.6 Placing documents into the secured folder, accessible only through login:

You can create another layer of security and control by placing documents in a folder that requires a login by students. You can enable and disable a login and password (or more than one) for the class very quickly through the User Administration feature described in Section 6 of this manual. By changing the password as each class enters the room, for example, you can give them access to the documents while removing access for those who knew the old password.

The procedure for placing documents in the secured folder, called the *authusers* folder, is much like that for placing documents on the server in general. Create the document on your host computer. Copy and paste it into the PocketPC My Documents/www-root/authusers folder on your desktop, and synchronize to your PocketPC. Note that the only difference in this procedure and the general procedure is that you paste the document into the authusers folder rather than into the www-root folder itself. Appendix B contains details on the ClassInHand directory and file structures.

1.7 How your students access files through the Login link

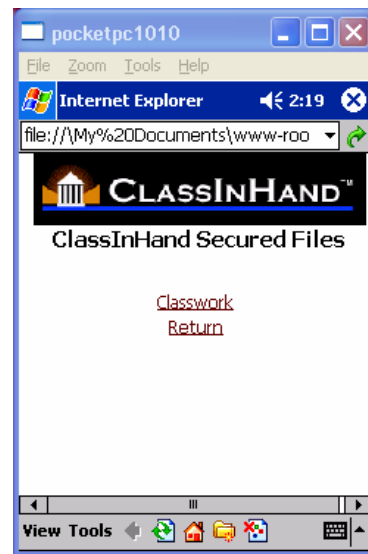
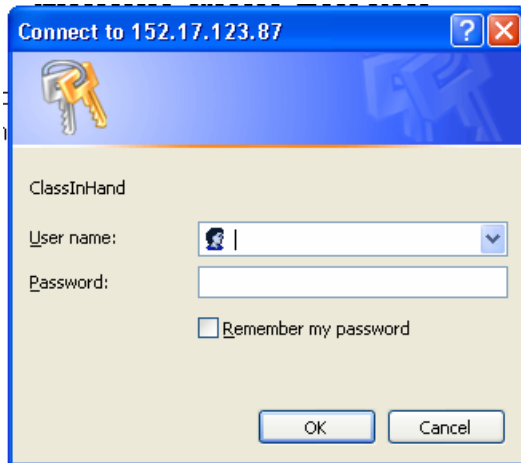
There are two possible scenarios for accessing secured documents:



1. *By URL:* Give students the URL for the document in much the same way that you do for unsecured documents, described in section 1.5 above, except that the authusers folder name must be included in the URL that students use. For example, if you placed a document called references.htm into the authusers folder and your web server IP address is 111.22.33.44, your students should use the following URL: <http://111.22.33.44/authusers/references.htm>

Students will get the authentication page shown here, and after entering the correct user name and password will see the references.htm document.

2. *By using the built-in Login link:* The standard ClassInHand™ installation includes a “menu” page in the authusers folder with a link to a document called *classwork*. When students choose the Login link on your ClassInHand™ web page, they see the login screen illustrated on the left below. Choosing the Login link leads them to the page shown on the right. You should create your document on your computer in Word, use the Save As Web Page option, and name the document *classwork.htm*. Copy and paste the classwork.htm file into the PocketPC_My Documents/www-root/authusers folder on your desktop and synchronize to your PocketPC. When students choose the Classwork link, they will get your document. You can recreate and replace the *classwork.htm* document as often as you wish.



You can modify the index.html file in the authusers folder to add your own links to this “menu” page. For more information, see Appendix B.

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Section 2

Presentations

Overview

The presentation capabilities of ClassInHand™ software free you from being tethered to a lectern or desk to advance PowerPoint slides and to see your slide text and speaker notes. You can use the Pocket PC to browse to a PowerPoint presentation residing on the desktop or laptop computer that is attached to the projector, start the presentation, and control the presentation using Next and Previous buttons on the ClassInHand™ screen. You can walk around the room as you talk without having to turn away from your audience or class to see the next topic on the projection screen. On slides where bullet points appear with each mouse click, you see all bullet points at once on the ClassInHand™ screen so that you can stay on track with your comments. And there is no longer a need to print the speaker notes associated with a slide; they show on the ClassInHand™ screen also.

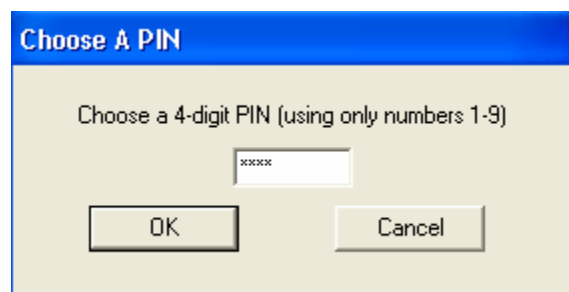
It is not necessary to start the ClassInHand™ web server in order to use these presentation features. However, the real power of the software lies in the fact that you *can* do all of these things simultaneously. By starting the web server before you begin the presentation, you can control the presentation while also allowing students to answer quiz questions or to submit questions, comments, or quantitative feedback as described in sections that follow. You can have an in-class assignment, information, or a quiz waiting for them in the authusers folder and provide the login information on a slide at the point in the presentation where you want them to access that information. Combining the features of the ClassInHand™ software allows you tremendous flexibility in creating an interactive learning atmosphere in your class.

In order to ensure that you as the instructor retain control of the presentation computer, the software requires you to enter a PIN of your choosing when you start the Presentation Agent and a matching PIN on the Pocket PC.

Instructions:

On the desktop or laptop computer:

1. Start the presentation agent on the desktop or laptop computer that is attached to the projector by double-clicking on the PCAgentXP icon (included with the software). You will choose a 4-digit PIN, made up of digits 1 through 9, each time you start the Agent. You may use the same PIN each time or change it, as you wish.



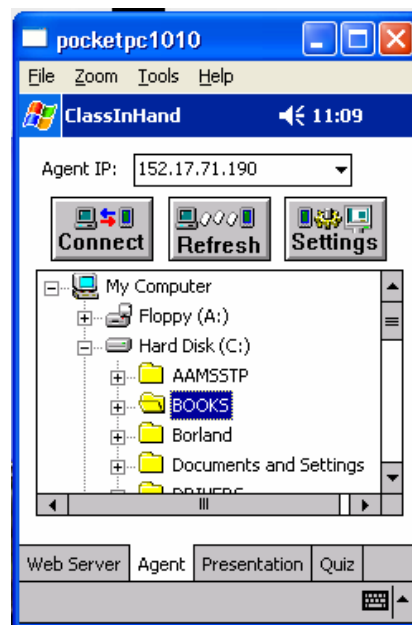
- The Agent screen shown below follows entry of the PIN. This screen displays the IP address of the computer on which it is running. You will use this information when you are connecting to this computer from the Pocket PC.



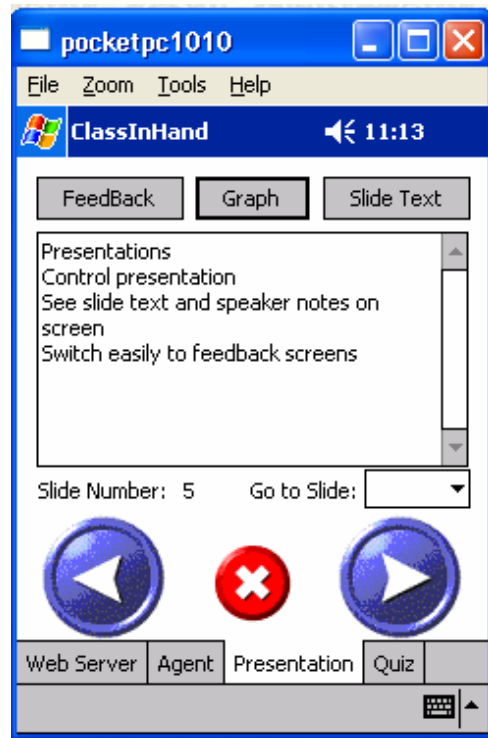
- Click on the Activate button. (The Reset PIN button is provided in case you want to return to this screen and change the PIN.) Note that this screen will always show you the status of the Agent, *running* or *idle*.

On the PocketPC:

- Start the ClassInHand™ web server if desired, as directed in Section 1.1.
- Choose the Agent tab. Enter the IP address of the presentation computer, provided on the Agent screen shown above. Do this by clicking the Agent IP dropdown box and typing the IP address.
- Tap the Connect button. A pop-up box will request entry of the PIN you entered on the Choose a Pin screen (above).
- When the connection has been made successfully via the wireless network, the ClassInHand™ screen will show the folders on that computer in the customary Windows navigation style. Note that you can browse the hard drive or an auxiliary drive such as a floppy or CD drive.
- Tap the Settings icon to set whether you want slide text, slide notes, or both to show on your screen.
- Navigate to your presentation and select it by tapping the screen. ClassInHand™ will open PowerPoint.



10. Tap the Presentation tab. Your presentation will now start as a Slide Show. (Note: Your PowerPoint presentation should be saved in the default .ppt format.)
11. Use the Previous and Next buttons to control the presentation. You can also use the drop-down box below the text window to go back to a particular slide, referenced by its slide number.
12. At any time during the presentation, you can switch to the Feedback screen or Graph (for Feedback Meter) screen in ClassInHand™ by tapping the appropriate button. The audience or students will continue to see the presentation on the projection screen even though the slide text is no longer showing on your Pocket PC screen. You can easily return to the presentation text by tapping the Slide Text button.
13. Click the Close button when you are finished with the presentation.



Tech Notes:

- The software will cache submissions from both the Text Feedback and Feedback Meter forms while you are viewing another screen. The cached information will show when you view the Feedback screen or the Graph screen, respectively.
- You can copy both your presentation and the ClassInHand™ PC Agent.exe file to floppy disks, memory keys, or CDs if you will not be carrying your own computer to the presentation location. When you arrive at the presentation area, Copy the PCAgent.exe file from the CD to the presentation computer's desktop.
- You can show the presentation directly from the CD or other media. However, for best performance, copy the presentation to a folder on the computer. The presentation file must be in a folder, rather than on the desktop, in order for the File Explorer to find it.

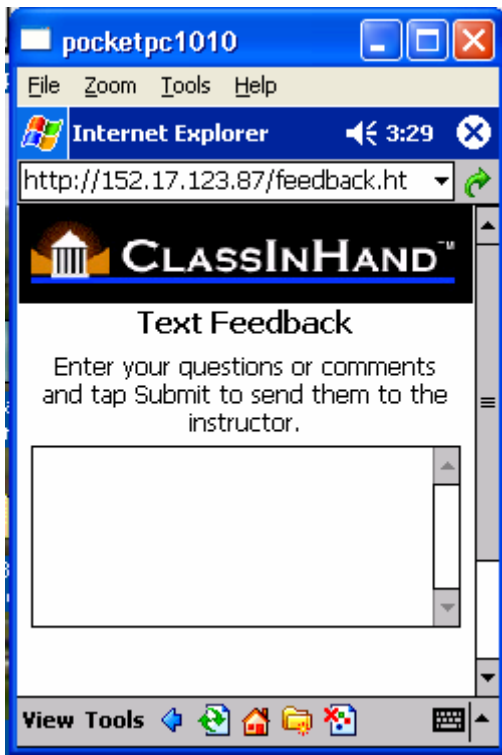
ClassInHand™

Section 3

Text Feedback

Overview:

Your students or audience can submit feedback to you during a class or presentation by using the feedback page on your ClassInHand™ web server. Students will need the URL for your ClassInHand™ home page, which contains a link to the feedback.html page. Properly formatted and linked pages are part of a standard ClassInHand™ software installation. The URL for your ClassInHand™ home page is simply the IP address of the device, which is displayed on the Web Server page of the ClassInHand™ software. For example, if your device's IP address is 155.11.22.33, you should give students the URL <http://155.11.22.33>.

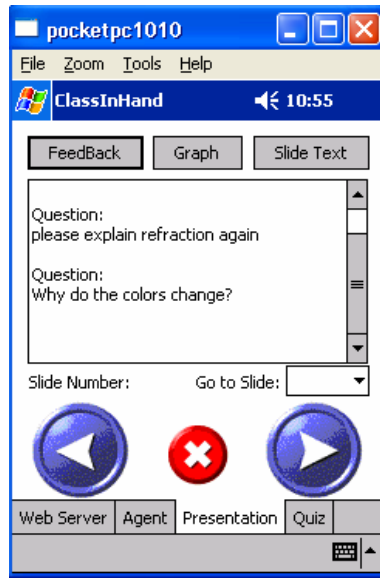


When they choose the Text Feedback link, students see this page from your web server. As they type feedback and tap the submit button, the text shows within seconds on your PocketPC screen, as illustrated in the instructions below. Suggestions for use include the following:

- Ask a question that will help you determine whether students have completed a reading assignment; ask students to respond and include their name in the response. You will have all student responses in one easy-to-handle text file rather than on individual sheets of paper.
- Instruct students to include their e-mail address with questions if you wish to respond individually outside of class.
- Collect feedback from students at the end of class regarding what concepts are still confusing to them.
- Save the questions (instructions below) and use them as the basis for the following day's class discussion or post them as an out-of-class research assignment for all students.

Instructions:

To use the feedback feature, start the web server as directed in Section 1.1. Tap on the Presentation tab to proceed to the integrated feedback/presentation screen.



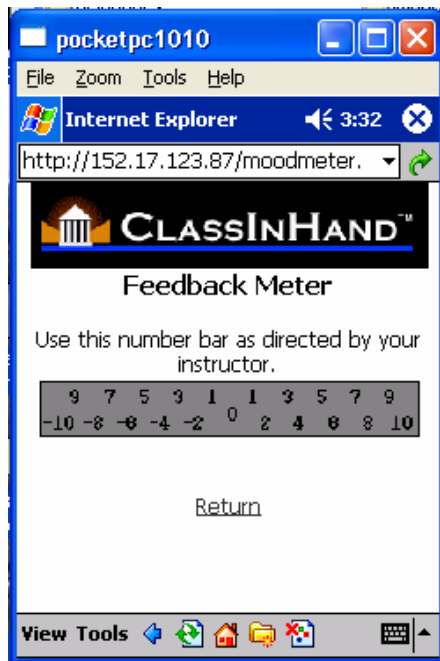
Tap on the Feedback button to see students' submissions.

You may switch among the Slide Text, Feedback, and Graph views at any time by tapping the desired button.

ClassInHand™ will initially save a session's submissions in a file called FeedbackQuestions.txt in the My Documents folder on your PocketPC. You will find the feedback for the most recent ClassInHand™ session (defined by opening and closing the software) in that file. The next time you open ClassInHand™, the software checks for the presence of a non-empty feedback file. If it finds one, the software will ask you if you wish to save the feedback. If you answer Yes, ClassInHand™ will rename the file for you. The file will be saved into the Export folder of the My Documents directory. Its name will be "fdbck" followed by the date and time. You can use File Explorer to find this file in the My Documents/Export folder, and can read it on your PocketPC or synchronize it to your host computer.

Overview

The Feedback Meter feature provides a way for your students to submit ongoing quantitative feedback or assigned values for specific events, and for you to view this feedback.



The home page on your ClassInHand™ web server contains a link, called Feedback Meter, to a page where students can choose values ranging from –10 to +10, as illustrated here. Students can click a value and submit as often as instructed. Submissions are immediately reflected on your Graph screen as a continuous curve. You choose what will be measured during each use or activity and instruct students. Consider some examples of how this might be used:

- In classes where differing opinions are encouraged, have students indicate their level of agreement or disagreement with what is being said (by you or by a student making a presentation)
- Have students rate fellow students' presentations on style, content, accuracy, or whatever is appropriate for the subject matter at hand and age range of the participants.
- Have students indicate on an ongoing basis their level of comprehension of a topic you are presenting.
- By instructing students to use selected numbers on

the scale, you can have them indicate throughout a film, a reading, a series of slides, or a musical selection the presence or level of a specific characteristic you wish them to be able to identify. For example, associate particular values with particular instruments while playing a musical selection and watch the feedback while you play the selection to determine whether most students are identifying the instruments correctly.

A distinct advantage of using ClassInHand™ for these activities is that students are not influenced by other students' responses, as they would be if you used colored cards, a show of hands, or other visible means of polling students. ClassInHand™ provides a quick formative assessment tool to help you more reliably determine students' opinions or whether they are grasping concepts.

Instructions:

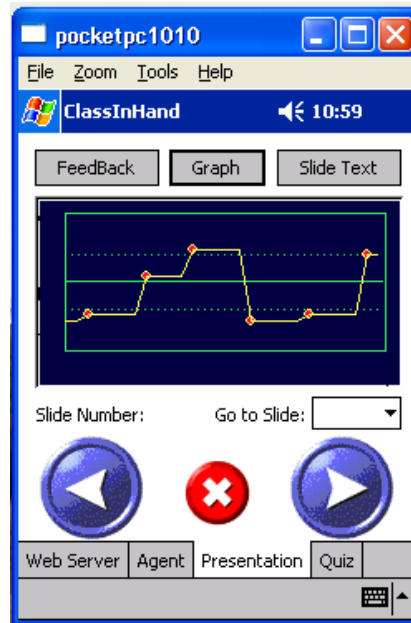
Start the web server as instructed in Section 1.1. Tap the Presentation button to go to the integrated presentation/feedback screen.

Give students the URL for your ClassInHand™ home page and have them choose the "Feedback Meter" link. Tell them what you want them to measure and provide any additional explanations needed to ensure that they understand how ratings should be

assigned. You may also wish to explain that they should submit a new value each time their rating or opinion changes.

Tap on the Graph button to view the students' submissions. Instruct students when to begin submitting feedback. Watch the graph screen for a continuous curve showing you their submissions. Each submission will be indicated by a bubble on the graph.

You may switch among the Feedback, Graph, and Slide Text views at any time by tapping the desired button.



ClassInHand™

Section 5

Quiz Feature

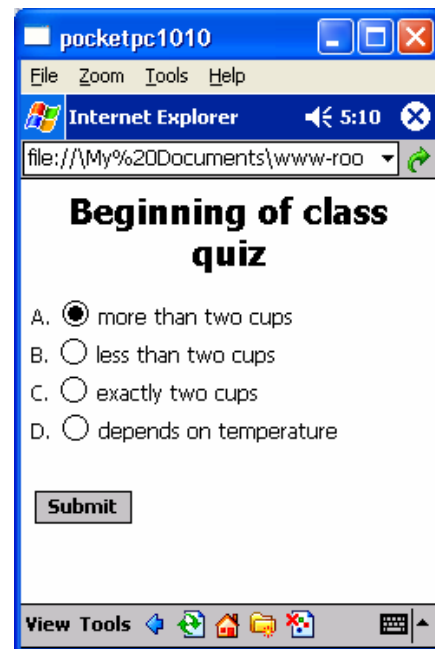
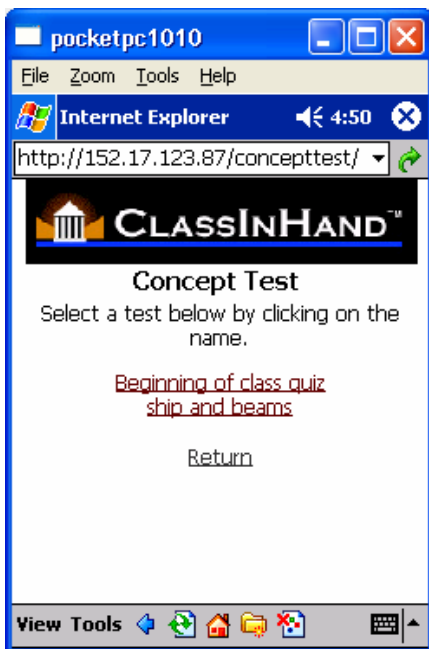
Overview:

The Quiz or Concept Test feature is a polling application that enables you to present students a question with multiple-choice answers and to see their aggregated responses in bar graph form on your PocketPC as soon as they submit them. You can choose to show students the bar graph through the Presentation Agent. You may type in questions and answers before class time and specify whether or not they show on the Concept Test web page. You can dynamically manage which test links are visible by using check boxes. You can edit tests, export results, clear and reset test results, and delete tests quickly by tapping on the screen.

This feature is ideal for implementing the ConcepTest teaching method popularized by Dr. Eric Mazur at Harvard University. A typical scenario would be the following:

- Show students the question and get their responses.
- If the majority of students answer the question correctly, you can assume that they understand the concept and move on to the next topic.
- If students' answers are split among choices, do not divulge the results. Instead, have students discuss the question among themselves for a minute or two. During that time, you can export the results if you wish to save them.
- Clear the results and have students submit answers again after their discussion.

The illustration on the left shows what your students see when they choose the Concept Test link from your ClassInHand™ home page. The illustration on the right shows how a typical quiz might look. In this illustration, the question was posed verbally and only the answers were typed into the ClassInHand™ quiz generator.

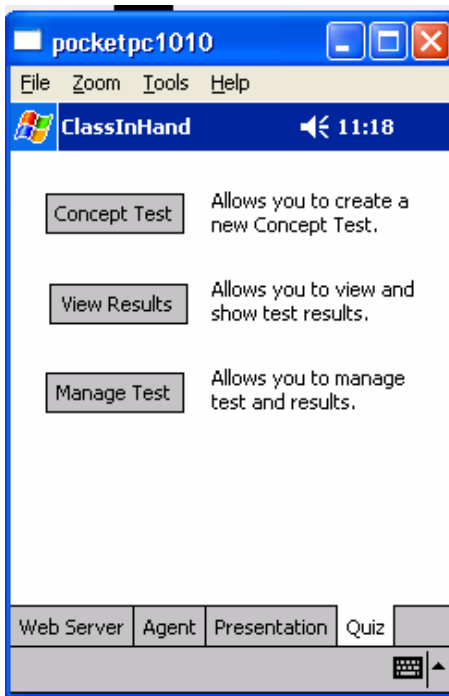


The typical sequence of events in creating and administering a quiz would be:

1. Prior to class, create one or more quizzes, as instructed in section 5.1
2. In class, start the ClassInHand™ web server, direct students to choose the Concept Test link from your ClassInHand™ home page, and specify the quiz link they are to use. If you wish to be able to show students the results of the polling using the classroom projector connected to your desktop or laptop computer, you should connect to the PCAgent on that computer (see Section 2, Presentations).
3. View results, and optionally show results to students, as instructed in section 5.2.
4. If desired, export results to save them for later review, as instructed in section 5.3.

Detailed instructions for creating and managing tests follow.

Instructions:



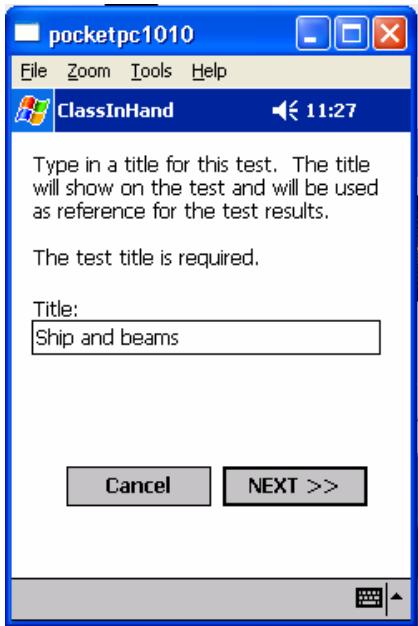
Choose the Quiz tab. Possible actions are:

Concept Test: This function enables you to create a question with up to 4 answers for your students. You can create the quiz prior to class and control when students see it through the Manage Test button.

View Results: You can view the results of a quiz as students are submitting their responses on your PocketPC, or show the results to your students if you are connected to the PC Agent.

Manage Test: Through this option you can edit a test, manage which test links are currently available to students, reset (clear) the results, and export the results to a file to save.

5.1 Creating a Concept Test

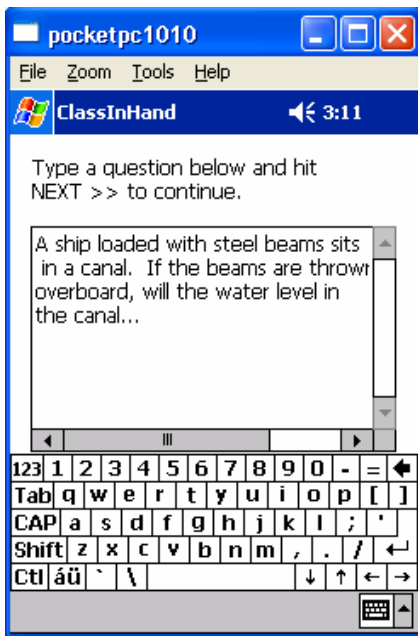


Step 1:

- Tap on the Concept Test button
- Enter the test title.

Note: This is a required field. The test title is the link students will see on the Concept Test page in their browsers. It will also be the reference you will use to manage the test within ClassInHand™.

- Tap the Next>> button.



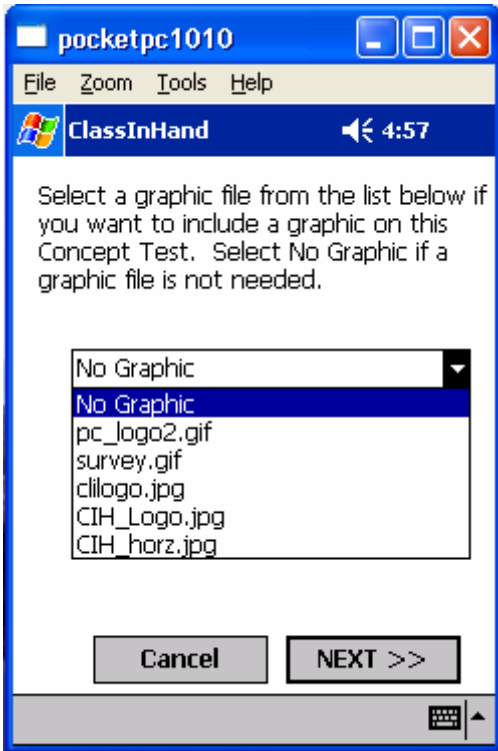
Step 2:

This screen is for typing in the quiz question. The quiz question is not a required field, as you may prefer to show the question within a PowerPoint slide show and let students read it from the projection screen, give the question verbally, or use other means of communicating it.

If you do type in a question, the maximum number of characters is 512.

Note:

ClassInHand™ will format the question just as you type it in. If you use the Enter key to force text to a new line, it will be interpreted as the html
 tag, and thus will force a new line on the web page for students.



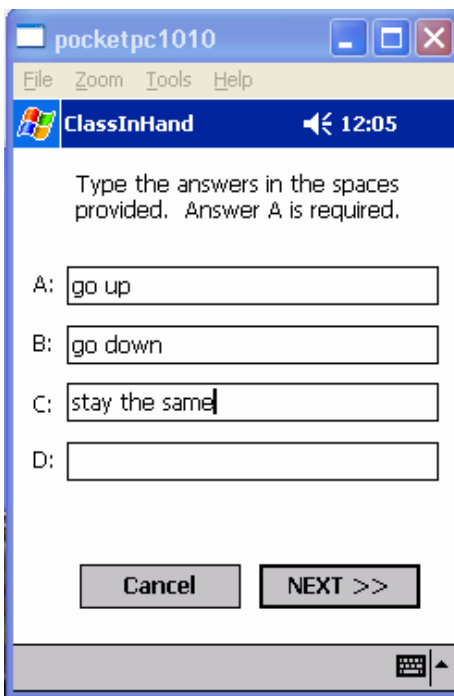
Step 3:

You may include a graphic (a gif or jpg file) as part of the question or as the entire question.

To do so, you must place the *graphic in the My Documents/www-root/graphics folder prior to setting up the quiz. (See Appendix B for detailed information on folders within the ClassInHand application.)

The drop-down box will show all graphics that are in your graphics folder. Choose a graphic or choose No Graphic, then tap the Next>> button.

* Tech Note: If your students will be using PocketPCs to access your ClassInHand web page and this quiz, you will need to check the graphic for fit on the screen through Pocket Internet Explorer. By default, Pocket IE will have the "Fit To Screen" option checked, which may cause the image to be condensed to the fit the screen. A typical image used with Pocket IE should be about 230 pixels wide. If your students will be using laptop or desktop computers to access the quiz, this is not a concern.

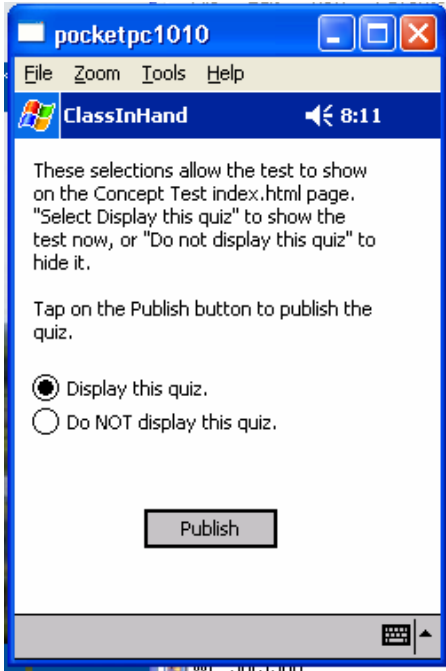


Step 4:

Enter the answers students should choose from and hit the Next>> button.

Notes about answers:

- The first answer, A, is a required field. You are not required to have four answers; however you must have your answers in succession. For example: If you have three answers, do not use boxes A, B and D; use boxes A, B, and C.
- The maximum number of characters for an answer is 50.
- Answers may not include any HTML code.



Step 5:

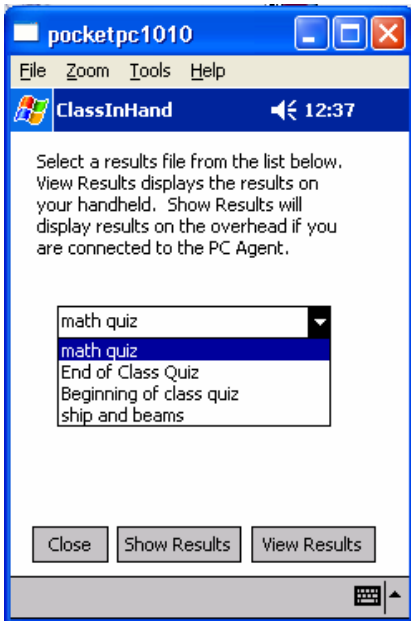
On this screen you specify whether the concept test you have created should be displayed as a link immediately on the Concept Test page on your ClassInHand™ web server.

If you choose not to display this quiz link immediately, you can display it later by using the Manage Test functionality described below.

In either case, you must tap the Publish button to create and save the quiz.

If you chose “Display this quiz”, your students will now see the test title as a link on their Concept Test web page. If not, the link will not show until you enable it, as described in Section 5.3.1

5.2 Viewing and Displaying Results

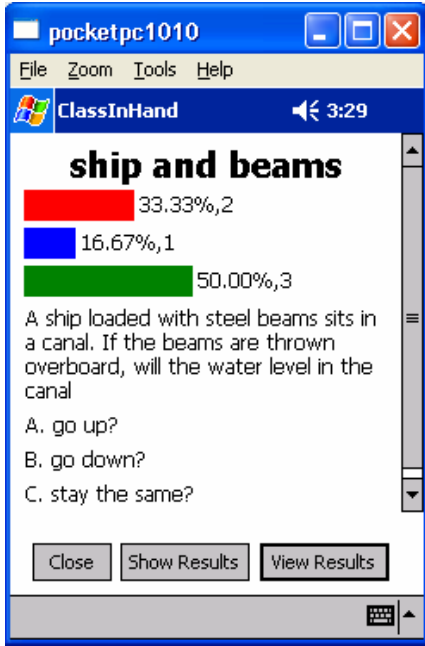


As soon as students begin submitting answers for a quiz, you can view results in two ways by tapping the View Results button on the Quiz Tab.

1. Select the test for which you wish to view the results.
2. If you wish to view results without revealing them to your students, choose the View Results button.
3. To show results to the class, make sure that ClassInHand™ is connected to the PC Agent (Section 2, steps 1-7), then tap the Show Results button.

You may refresh the results at any time by tapping the View Results button again.

The View Results screen:



Once you have selected a quiz and tapped View Results, you will see a bar graph representing the percentage of students that have submitted each answer and the actual number who have submitted each answer.

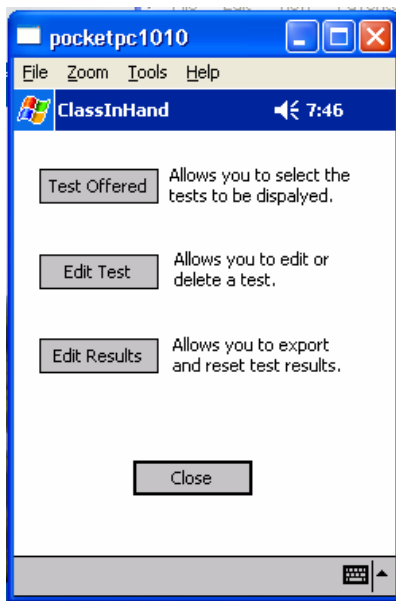
Bars will show in A-B-C-D order. Answer A will be a red bar, answer B will be a blue bar, answer C will be a green bar, and answer D will be a black bar.

To refresh the screen with the latest submissions, tap the View Results button again at any time.

Note that you have another opportunity here to decide to show results to the class.

The Show Results button will display the results on the laptop or desktop computer (connected to the classroom projection system) through the PC Agent. **To show results to your class, you must have the PC Agent activated and connected to the PocketPC using the Agent tab**, as described in Section 2. To close the results on both the PocketPC screen and the projection screen, tap the Close button.

5.3 Test Management



Test management includes

Test offered:

- Controlling whether a test shows as a link for students

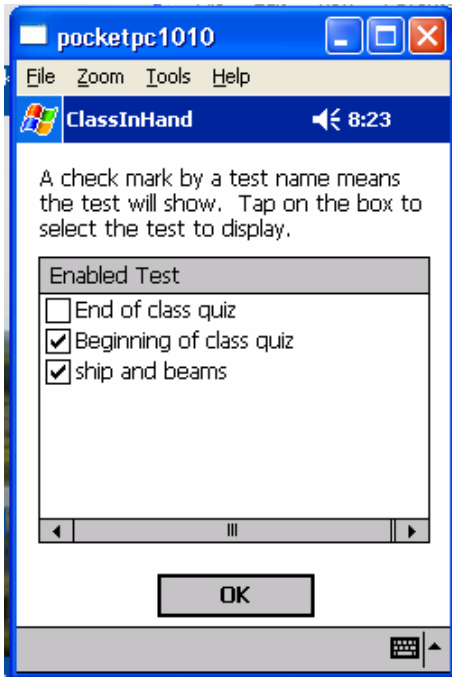
Edit test:

- Changing the test name
- Changing questions or answers
- Deleting a test

Edit results:

- Exporting test results
- Clearing test results (reset)

5.3.1 Manage Test>Test Offered



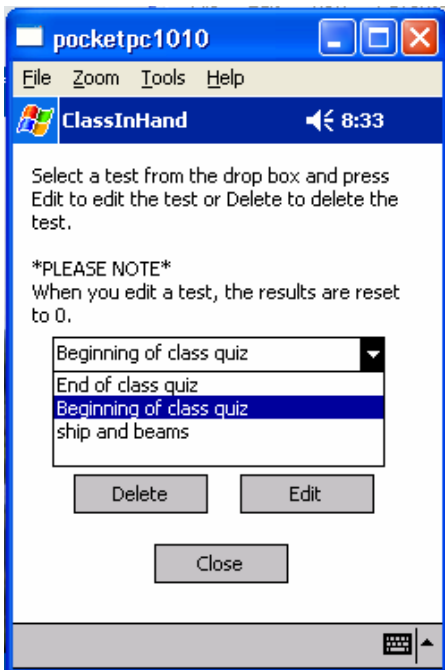
This screen displays all tests that have been published to the ClassInHand web server. A checkmark to the left of the test name means the test is displayed as a link on the page students see when they browse to the Concept Test link on your ClassInHand™ server.

To make a test visible as a link for students, tap on the empty box to the left of the test name. Make sure a check mark appears and tap the OK button.

To remove a test link from the students' page, tap on the checkmark to the left of the test name. Make sure the check mark has disappeared and tap the OK button.

Note: If you checked "Display this quiz" when creating the test, you do not need to come to this page until you want to remove the test from the students' page.

5.3.2 Manage Test>Edit Test



When you tap the Edit Test button, you will see this screen.

Use the drop-down box to select the test you wish to edit or delete.

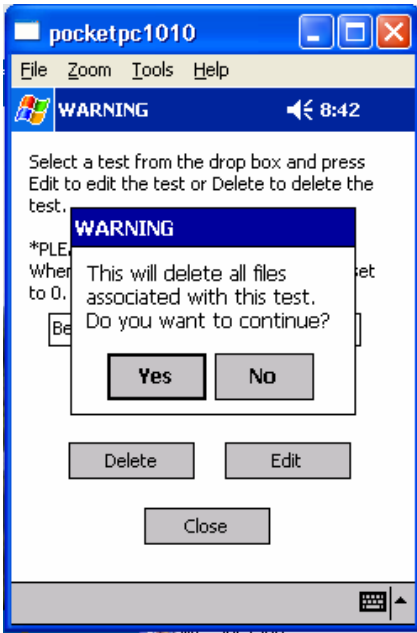
Once you have selected the test, tap either the Edit button to modify the test questions or answers, or the Delete button to delete the test from your PocketPC.

Notes:

When you edit a test, the results are reset to zero.

When you delete a test, it is deleted entirely from your PocketPC. Results files and all links are removed.

5.3.2.1 Manage Test>Edit Test>Delete



Once you have chosen the test from the drop-down box, tap the Delete button to remove the test from your PocketPC. You will get a warning message that will allow you to change your mind.

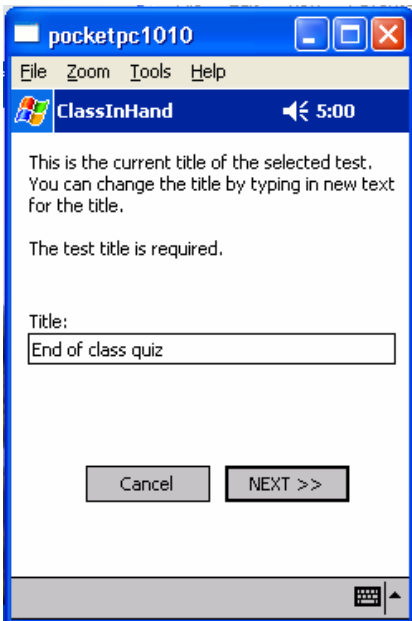
Notes:

Deleting the test will remove all files that contain the results of the selected test. If you wish to save the results of the test and have not yet exported them, you must do this before you delete the test.

Deleting old tests saves space on your PocketPC.

5.3.2.2 Manage Test>Edit Test>Edit

If you choose the Edit option rather than the Delete option on the screen above, you will go through a series of screens that allow you to edit the title, the question, the answers, and the graphic used. **Remember that editing the test will clear any results that students have already submitted.**

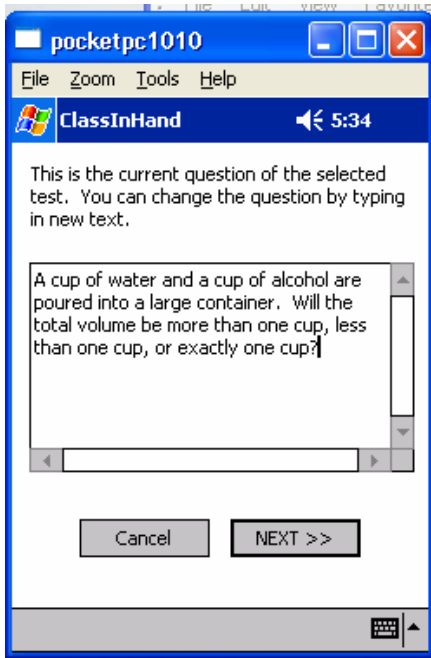


Edit Test: Step 1

You may change the title of the test by simply typing in a new title, or you may keep the test title as it is and edit other parts of the test.

Keep in mind that the test title is the link that students see on their screen when they browse to the Concept Test link on your ClassInHand™ web server.

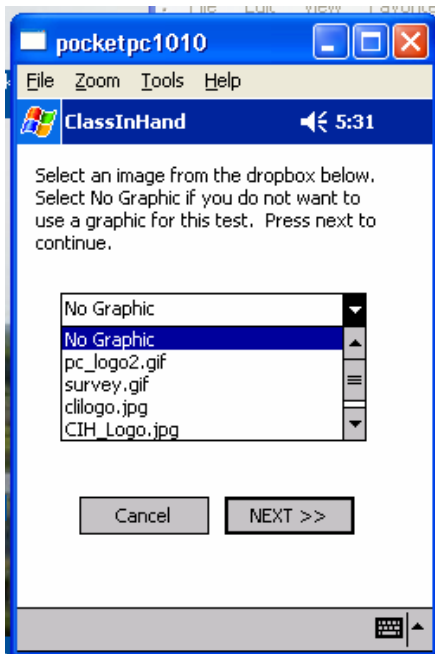
Tap the NEXT >> button to continue.



Edit Test, Step 2:

The next item you can edit is the question itself. Type in new text if you wish and hit the Next>> button when you are ready to continue.

Remember that the question text can be blank. You may use a graphic instead of text, or you may present the question verbally or in some other manner.

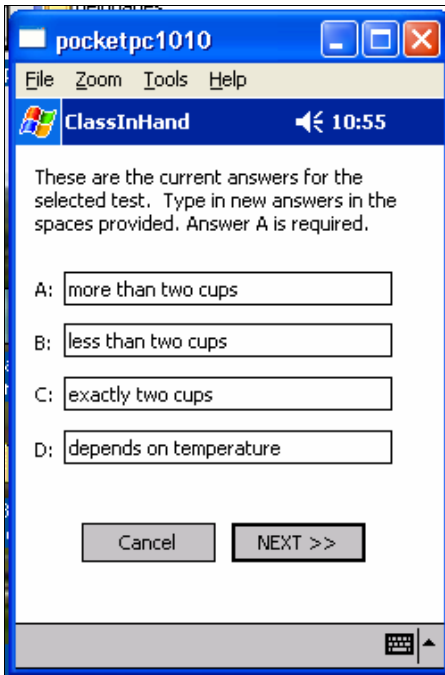


Edit test, step 3:

You may choose a different graphic from the drop-down box. To remove an existing graphic from the test, choose the No Graphic option.

The graphics listed in the drop-down box are those that you have previously copied to the graphics folder in the www-root directory. See section 5.1, step 3 for additional information.

The next screen shows you the current responses on the test you have chosen to edit. You can change any of the answers. The maximum answer length is 50 characters.

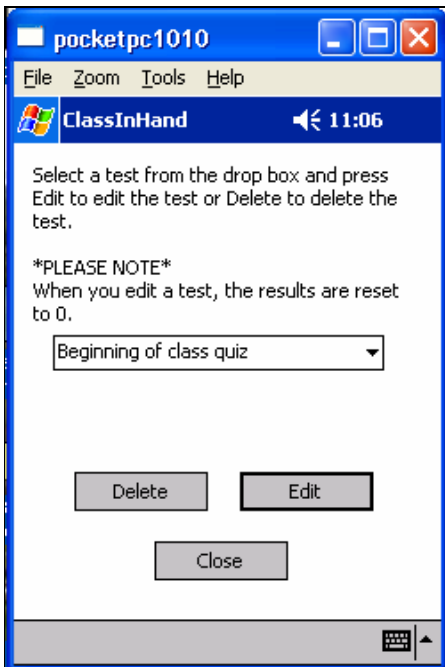


Step 4:

Modify the answers as needed. Remember to use the boxes sequentially if you use fewer than four answers.

When you have finished editing the answers, tap on the Next>> button.

The edit cycle is now complete and you will return to the first screen in the edit sequence, as shown below.



Step 5:

To complete the sequence and save the changes, tap the Close button.

Note that if you made changes in the test title, those changes will take effect only *after* you tap the Close button.

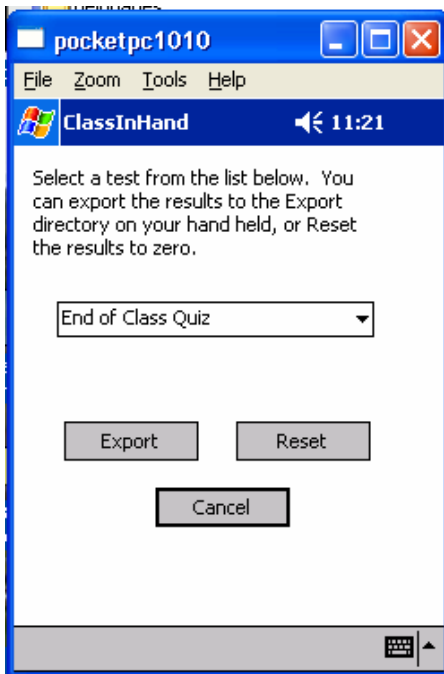
Changes you made to the test will be saved and all of the results will be set to zero. If the test was already enabled, it will be displayed as a link on the students' Concept Test page. If it was disabled, you will need to select the Test Offered button and enable it, as described in section 5.3.1.

5.3.3 Test Management>Edit Results

When you installed ClassInHand™ a directory called Export was created in the My Documents folder. The Edit Results option enables you to export and save the results from one instance of the test in preparation for giving the test again, either to the same class (for example, after further discussion of the topic), or to another class.

You can review the results file by using File Explorer on your PocketPC to locate the Export folder in the My Documents folder, and choosing the file bearing the name of the test with the date and time appended. The date and time distinguish one instance of the test from another.

When you tap on the file, it opens in Pocket Word. The file will contain the question text, the answers, and the number of submissions for each answer. Instructions follow:



Exporting:
Choose the test title from the drop-down box. Tap Export to save the test results as described above.

Clearing:
To clear results in preparation for giving the same test again, tap the Reset button. This sets the number of responses for each answer to zero.

<p>ClassInHand™ Section 6 User Administration for Login</p>

Overview:

The User Administration features are completely optional and are needed only to support the Login feature of the software.

You may wish to make some files on the web server available to only your students or only certain students, rather than everyone who visits the ClassInHand™ web server. The User Administration feature makes it easy to do this by enabling you to require authentication for documents you place in the *authusers* folder, which is a standard component of the ClassInHand™ installation. (See Appendix B for more information on file structures.)

The choice of user names and passwords for your web server is entirely up to you, rather than being subject to the rules and naming conventions of a server administrator. You can change them as often or as infrequently as you wish, depending on how you plan to use logins to control access to materials. You can create a login for each student or a common login for a group of students. These features are dynamic, enabling you at any time to create a new login that is immediately available for use.

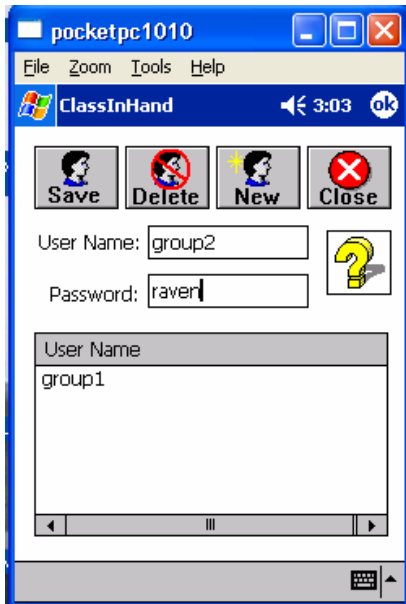
Requiring authentication provides a second level of security for information stored on the server. The first and easiest method of controlling access is to simply stop the web server, which disables everyone's access. Consider the following examples of what you could do using the authentication feature:

- By choosing not to divulge the authentication information at the beginning of class, you can pre-load a quiz that students will take at the end of class, solutions to questions or problems, a page of links to additional information or resources that you do not wish students to have initially, or any other kind of information or assessment for which you wish to control access.
- You can place a document containing an extra-credit problem in the folder and give only students who have completed their other work the password
- You can place a clue to the solution of a difficult problem or issue in the folder and give only certain students the password
- By giving careful thought to whether you wish to use individual or group authentication, how often you want to change the authentication, timing of providing passwords to students, and timing of creating and removing users, you can construct a variety of in-class and out-of-class activities by placing critical materials in the *authusers* folder at strategic times.

In this release of ClassInHand™, all users you set up will have access to all materials in the *authusers* folder until you change the password, delete the user, or remove the materials. In a future release, different users or user groups will have their own folder, creating additional options for using this feature.

Instructions:

On the Web Server screen, tap the Authusers icon. You do not need to start the web server first.



To add a new user name and password: Enter the user name and password for the group or individual in the boxes provided and tap the Save button.

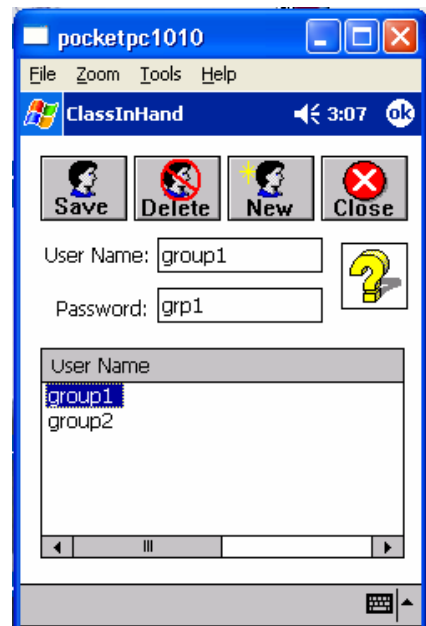
The login becomes active immediately, giving those students to whom you have divulged the user name and password access to whatever materials you have placed in the authusers folder.

To delete a login: Tap on the login you wish to delete to highlight it. Then tap the Delete button.

That login becomes invalid dynamically. Anyone using this login will no longer have access to the materials in the folder. Remember that you can make sure no one is logged in while you are changing this information by simply stopping the web server.

To look up a password for a user or group, tap that name in the list of User Names. The name and the password for the user will show in the User Name and Password boxes.

The **New** button clears text from the User Name and Password boxes, and is useful if you are entering several logins in succession.



ClassInHand™

Section 7

Web Server Administration (Optional)

The ClassInHand™ software has built-in features for tracking who is hitting your web page and the hit count on the server. Use of these features is completely optional.

The number of hits is always shown on the Web Server page of ClassInHand™. This hit count is reset every time you stop and start the web server.

You can track the IP addresses of those hitting your web server by tapping the Access Logging ON option. To see the log of hits, use File Explorer on your PocketPC to go to the www-root directory. Choose the logs directory, and open the accesslog file.



Important Notes:

- Using file logging consumes file space on your PocketPC. If you do not have much space, you should set logging to OFF.
- If you leave your ClassInHand™ web server on and set access logging to “On” while the Pocket PC is in its cradle, you should set synchronization to “manual”. Otherwise, the PocketPC will synchronize with your host computer with every hit. To change the synchronization setting, open ActiveSync on your host computer and choose Tools>Options>Sync Mode. Note that the default setting is “Continuously while the device is connected”.

ClassInHand™

Appendix A

Technical Information and Architecture

Figure 1 illustrates the connection model used by the application. The PocketPC is connected to the Internet via a wireless connection. This gives the instructor the mobility and freedom to move around the classroom.

For presentation control and for displaying quiz results to the class, the application includes an agent program running on the desktop or laptop computer that communicates with the PocketPC. The laptop or desktop computer is connected to the classroom's projection equipment, and to the Internet via wireless or standard Ethernet connection.

For using the web server, quiz, and feedback features, students' desktop or laptop computers are connected to the Internet via wireless or wired connection. If students are using PocketPCs, they must have wireless connectivity.

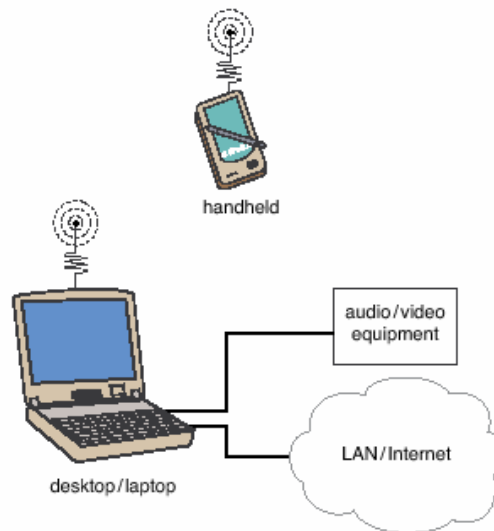


Figure 1

Specifications:

We chose the HP iPAQ as the platform for this application. The application has also been certified for Symbol, Dell, and Toshiba PocketPC devices. These are the specifications for running the ClassInHand™ software.

Desktop Client for Presentation feature:

- IBM compatible PC running Windows 2000 or Windows XP
- PowerPoint 2002 (part of Office2002 suite)
- 64mb of RAM
- Pentium Processor or higher

PocketPC Client:

- A StrongARM Processor running at 207mhz or faster, or Xscale
- 32mb of RAM
- Microsoft PocketPC 2000 (WinCE 3.0) with ROM Pack 1.77, or PocketPC 2002
- The application has not been tested and certified for PocketPC 2003

LAN connectivity.

- Both 2mb and 11mb wireless LANs are supported.

NOTE:

- Running the PCAgent software on Windows 98 with the OfficeXP (Office 2002) version of PowerPoint is acceptable for most of the software's features. However, you may experience some problems in the z-order of screens when using the Show Results option of the Quiz feature or other anomalies. This configuration is discouraged for this reason.

ClassInHand™
Appendix B
Standard Directories and Files

The standard ClassInHand™ software installation will add the following directories (folders), subdirectories, and files to your PocketPC My Documents folder

Name	Type	Use or Purpose
www-root	directory	Copy documents to this folder to make them available on your web server
authusers	directory	Copy documents to this folder if you wish them to be protected by login and password
index	html file	Index page for authusers directory; contains link to classwork.htm file by default
cgi-bin	directory	Contains cgi command files needed for the Quiz function
Concept Test	directory	Contains the quizzes and results that you set up through the Quiz feature
index	html file	The web page containing links to quizzes you have set up
graphics	directory	Copy graphics here that you want to use for quizzes; this directory also contains the logos and graphics used for the application itself
logs	directory	Contains the access logs for the web server
feedback	html file	The web page for the Text Feedback feature
index	html file	The index page for the web server
moodmeter	html file	The web page for the Feedback Meter feature
FeedBackQuestions	text file	Contains the text from your most recent use of the Text Feedback feature
moodmeter	text file	Contains the numbers submitted by students while using the Feedback Meter
CLIHHELP	directory	Contains html files for the Help function
Export	directory	Contains test results that you have exported through the Export function of the Quiz feature; also contains renamed Text Feedback files (each called fdbck###..., where ###... is a date and time stamp) if you let the application rename the Text Feedback for you

Modifying or deleting any of these files may result in software failures. However, if you have a thorough knowledge of html, you can modify the index page in the www-root directory and the index page in the authusers directory to include your own links. Other modifications are discouraged.

You can create additional pages for the web server using these instructions:

- Create a web page using your favorite tools. For example, create a Word or Excel document and use the Save As Web Page option, or use Notepad or a similar editor to create an html file.
- Copy the file to the www-root folder in the Pocket PC My documents folder on your desktop.
- Synchronize with the PocketPC and these files will then be available for your web server.
- To access the files, students should use your IP address as the URL followed by the name of the page, for example, <http://155.11.22.33/newpage.htm>.

Tech Tip:

Pocket Internet Explorer does not support all the mime types and functions that Internet Explorer supports. Putting files of types other than html (or htm) and pdf on the Pocket PC requires a knowledge of which other software is installed on the device and the appropriate mime types and file extensions to use. The file extensions for Word and PocketWord are different; the same is true of Excel and PocketExcel. When you copy and paste Word and Excel documents from your computer into the PocketPC_My Documents folder on your desktop, ActiveSync will convert them to the correct types and file extensions for the PocketPC unless you configure it not to do so. For more information or to experiment with file conversions, open ActiveSync and choose Tools>Options>Rules>Conversion Settings. Be aware that changing the default settings may cause you problems.

