Usability evaluation results

Created by Craig Miller, last modified on Mar 08, 2010

Method

I conducted the evaluation over three separate groups. After each group, I reviewed problem areas and then updated the pages with small changes (i.e., graphics and/or text) to make the process easier. This approach let me see if my changes worked for the next group. For example, after the pre-test group, I changed the name of the **Next Step** button to **Scan** because the early users were confused when clicking **Next Step** initiated the scanner. When I tested this change with the "Blue sky" group, some users thought the instruction to "Click **Scan**" meant to press the button on the scanner. So, I then changed the button to **Scan Check** to test with the third group and did not see any more problems.

The following table shows a breakdown of tasks by group.

Group	Description
Pre-test group	2 participants plus a UI review to address specific, known issues
"Blue-sky" group	• Epson scanner, 4 favourable checks, and 5 participants • Task covered automatic scanning (although one participant ended up scanning one check manually).
"Dark cloud" group	• Canon scanner, 3 unfavourable checks, 4 participants • Task included graph paper and manual scan

Results

The following list shows the results of the usability evaluation. The results are organized by category. Unfortunately I was not able to incorporate the video highlight clips from the powerpoint slides.
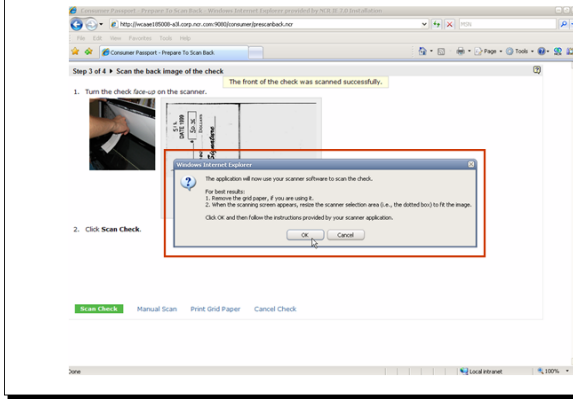
Check Amount Differs/Missed Decimal Point

Title	Check Amount Differs/Missed Decimal Point
Slide	
Issue	This issue is a combination of two problems: (1) the missing second decimal place on ".00" dollar amounts, and (2) The "Check amount differs from the amount you entered" error message. When the user arrives at the Deposit Review page and sees the error message, the user re-types the amount and then clicks the **Update Amount** button. The error message goes away but the amount is still missing the last decimal place. The user thinks there was still a problem and does not know how to resolve it. In one case, the user throught there was a problem with the check and rescanned it. In another case, the user didn't realize that having to re-type the amount (and still have it show as missing) was the only way to submit the deposit. [Related problem] Typically when you scan a check, that check is highlighted on this list. However, this is not always the case. If an old check has an error, it is highlighted rather than the most recent item. So when users come to this page and don't see the last check they scanned, users first go to the thumbnails to find and click on it. When they do that the error message goes away (which they may or may not have noticed) and then they don't understand why they cannot submit the deposit.
References	P2 07:25.3 'The amount of the check differs from what you entered' The user re-typed the amount. The error message went away, but the value in the amount box is still missing a the second digit on the right of the decimal place. P5 11:43.4 On the third time around, the user noticed the error message left over from the second check. He also noticed and expected that the fourth check would be previewed, not the third one. P5 14:49.4 User is stuck by not being able to submit the deposit. The amounts look correct the error on the third check is preventing him from submitting the transaction. P3 06:53.7 User noticed the missing '0' zero in the amount. This caused some hesitation P4 07:43.4 'It's not!' commenting on the missing '0' P2 08:10.5 User assumed that because the amount in the amount box was not correct that she had to re-scan the entire check P2 08:52.3 User assumes missing '0' was her fault and not the fault of the system. P1 15:04.2 'That's odd...'

Manual Scan - Popup

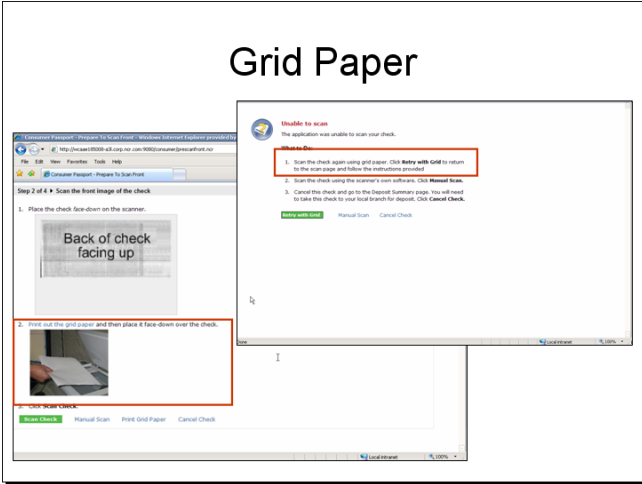| Title	Manual Scan - Popup
Slide	

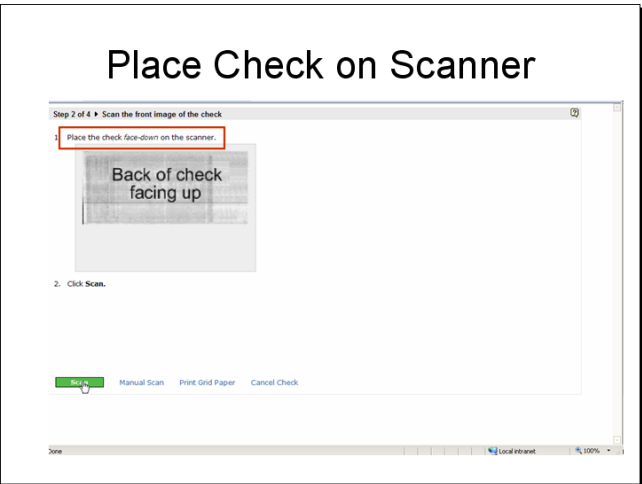|	
Issue	Beyond being a nuisance, this dialog had a adverse effect on workflow. The dialog appears as soon as the page with instructions loads and it obscures vital information such as placing or flipping the check. Users missed the information and ended up re-scanning the same side. Combined with the issue of the left-over image in the scanner's UI window, users were generally unaware of what they were scanning. [workflow-related] Three participants mentioned that they were confused by manual mode. Why, once they got there they weren't able to get out again.
References	P7 04:57.8 'As it didn't say leave the check in the scanner...' Consider adding this to instructions so the user knows to leave the check there. P9 07:53.3 'I don't know why I'm getting this in a dialog box' User confused that he's getting information in a dialog after getting other information on a web page P8 09:44.5 User ends up with two blank front/back images in the deposit review page because the popup obscured the instructions on the screen and he didn't know to flip the image. P8 10:03.6 Manual mode popup hell P7 10:12.1 popup button hell P9 10:15.5 User confused by popup on the scan back of check... didn't read the page in the background and assumed there was a problem with the scan. P1 10:53.9 'I'm very confused why this appeared now when it didn't appear last time. P1 11:00.4 'What the heck?' P7 11:06.2 'I'm getting fed up with that message' P9 12:40.4 'It never told me to remove my old check...' Since the popup obscured the screen instructions, the user didn't know he was supposed to put the new check on after typing the amount. P9 13:11.6 'This familiar dialog box makes me feel like I'm doing something wrong.' P8 21:26.4 'This is the popup box I found disconcerting' P8 09:04.9 User confused why he's in manual mode ...probably because the popup obscured the info on the screen telling him to turn the check over P1 15:59.2 User confused why the first time it worked, then she couldn't get back to auto mode. P7 18:54.6 Once I got into that manual scan I couldn't get out of it. P7 15:39.1 'Disconcerting' flipping between screens (automatic vs. manual) P7 15:39.1 'Disconcerting' flipping between screens (automatic vs. manual) P8 09:04.9 User confused why he's in manual mode ...probably because the popup obscured the info on the screen telling him to turn the check over P1 15:59.2 User confused why the first time it worked, then it went to manual scan, then she couldn't get back to auto mode. P7 18:54.6 Once I got into that manual scan I couldn't get out of it. P7 15:39.1 'Disconcerting' flipping between screens (automatic vs. manual)

Manual Scan - UI

Title	**Manual Scan - UI**
Slide	
Issue	[canon preview window] When the scanner UI opens up there is already an image in the preview window. Since users think the image they want scanned is already previewed, they press scan. Then it is completely random if they happened to place the check in the pre-scan area. This issue, combined with the popup, confuses the users and it is not until they are at the review deposit page that they see that they scanned the front or back twice, or neither. [scanner UI] Participants were puzzled when left at this screen. After receiving clear steps in previous screens, they were left here with no direction on what to do. After being surprised by the new UI, two participants forgot which side of the check they were scanning. One reason is the problem with the preview window, the over could be unfamiliarity with the scanner. [other] One user wondered why the scanner was able to do a good preview scan (and presumably a good scan as well) when the smart button wasn't able to.
Question	Is there any way to clear the scanner UI window "buffer" so that this left-over image isn't there? Could we also kick off a pre-scan when this screen pops up?

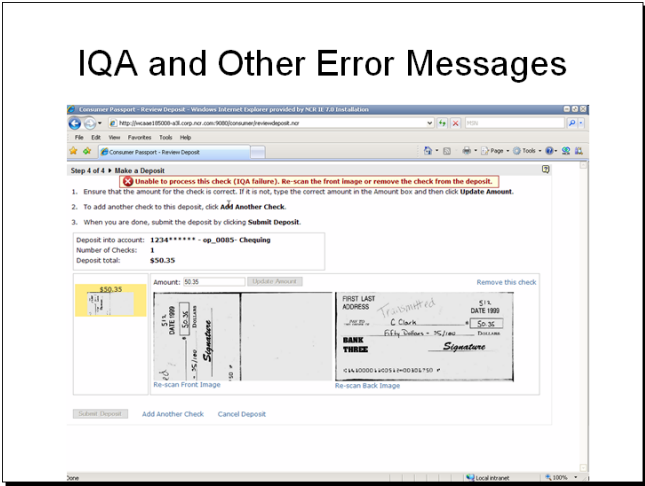| References	P7 04:25.7 When the manual scan dialog appears, an old image is showing in the preview window which confused the user into thinking the preview already happened.
	P8 07:14.3 When user got dropped into manual scan, he saw an image already in the preview window and just clicked the scan button.
	P8 08:30.7 'Why's it doing this again?'
	P8 21:54.2 'Why couldn't it have done that before correctly outline the preview image on the window'
	P7 16:25.3 'Sometimes I get the image from the previous scan'
	P7 08:39.1 'I find it very disconcerting that I'm trying to scan the front image but the back image is displayed'
	P9 09:12.0 User assumed the image in the preview window was of the check in the scanner... actually it was from a previous scan.
	P7 16:14.1 'It doesn't tell me where I am' manual scan screen
	P7 04:37.8 User overwhelmed with the manual scanner UI
	P9 09:03.0 'Kind of forgot what the instructions on the previous screen were' User presented with native scanner UI and isn't sure how to proceed.
	P8 21:40.2 'When I was on this screen I was a little unsure what to do' canon scan screen
	P7 11:13.3 'I have no hint as to what it wants here...'

Grid Paper

Title	**Grid Paper**
Slide	
Issue	- Two participants skipped the grid paper because there was not enough information to describe what it was, why they were doing it. - Out of 4 participants who tried using the grid paper, only 1 succeeded.
Question	Based on the number of failures of people using grid paper, should we continue supporting it?
References	P9 04:39.8 'I wish I had some idea of what this grid is.' User is looking at the Unable to Scan page and hesitates about trying the grid because he doesn't know anything about it. Perhaps the task requires more text. P8 04:46.8 Scanning with grid paper P9 06:15.7 Grid fail P1 07:56.9 grid paper P8 23:00.7 why he didn't use the grid paper P7 03:33.0 Updated instructions don't say where to get grid paper.... maybe add something. P7 03:55.4 'there's no place to print grid paper' User didn't find anywhere to print the grid paper so he didn't bother.

Check Placement on Scanner

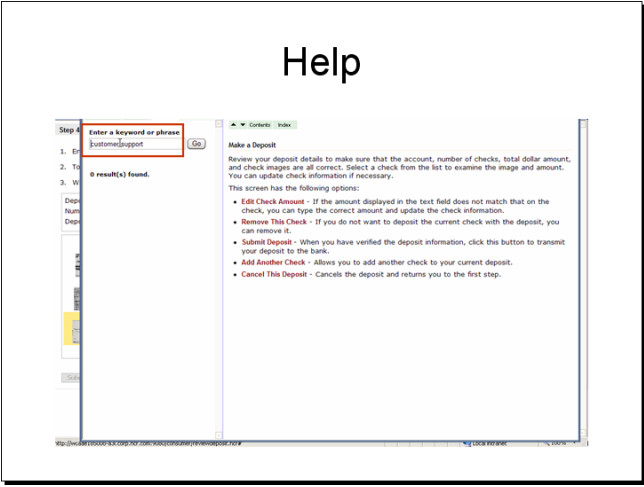| Title	**Check Placement on Scanner**
Slide	
Issue	We don't explicitly tell users where to place the image (under the assumption it doesn't matter?).
Suggestion	Should we suggest they place the image in the corner of the scanner with the arrow (assuming all scanners have that)?
Reference	P2 02:15.4 'I'm going to put it on the corner with the arrow' User identified starting corner of scanner, based on arrow User indicated she wasn't familiar with the scanner P4 03:03.1 Scanner has the arrow P2 03:15.3 'It doesn't tell me if I need to rotate it' User noted there were no directions about placing the cheque. Could indicate an expectation. P4 03:29.8 User hesitates about where to place the check because they are not told. P9 03:49.9 'It doesn't specify where' User decided to place it at arrow. P5 03:50.0 'Arrow is the top-left corner... usually' Maybe we should be telling them to place the check at the corner of the scanner with the arrow.

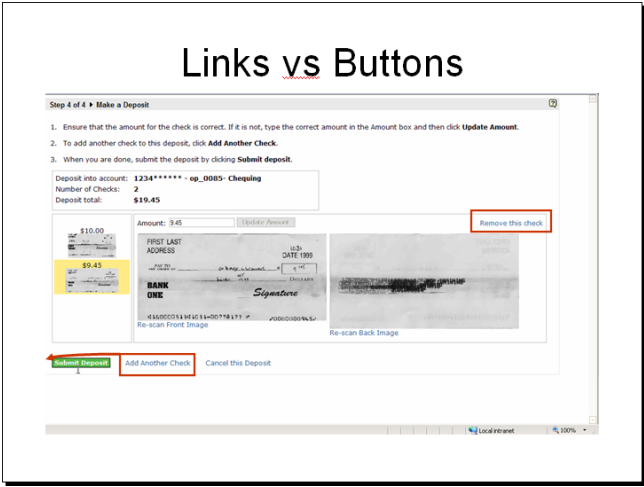| | P5 06:59.2 User placed check in a different orientation (at the corner of the scanner with the arrow) and it still worked... 2 for 2. maybe we should be suggesting this.
P4 16:16.3 There's nothing that tells people to place check in the corner with the arrow.
P7 02:46.4 'Not being used to the scanner...' [I didn't know where to put the check] |

IQA and Other Error Messages

Title	**IQA and Other Error Messages**
Slide	
Issue	Current error messages describe the problem but don't tell users how to resolve it. Some error messages say to call customer support but there is no contact information to be found. Other kinds of error confusion: Users missed that the error at the top of the page was for a specific check rather than for the whole deposit. When they clicked off the check, the message disappeared and they forgot about it and wondered why the submit deposit button was disabled. One participant noted the inconsistency with error messages. Some are pages, some are message strings. Pop-up dialogs turn out not to be error messages. [IQA Specifically] Users were confused by message ("What is IQA?"). One user asked why he was getting this message after the application said the scan was successful (from the pre scan back page) Beyond telling users to re-scan the front, we don't provide any information on how to get a successful image. Perhaps error resolution could be tied into the online help with contact numbers? [General] One participant noted the inconsistency with error messages. Some are pages, some are message strings. Pop-up dialogs turn out not to be error messages.
References	P9 11:54.3 User is confused by the conflict between the instructions saying to process the check and the red error message. User ignored the error and tried to scan the next one. P6 12:57.3 'Why doesn't it tell me at the beginning about the IQA. Back there it said it was successful P9 16:21.8 User confused about errors until he realizes that the errors are check related rather than deposit-related P4 18:33.9 Is the contact technical support going to be online? P9 19:36.6 User doesn't know why he can't submit the deposit--won't see the error unless he clicks on the check P2 17:05.0 Provide help with errors P1 18:01.2 User can't submit the deposit but she's not sure why P4 12:55.2 User reached an error saying the check's information contains errors. P4 13:26.3 User looking for some kind of link or something to say how to contact customer support.' P2 11:17.8 User is directed to contact customer support, but there is no customer support information provided. P2 12:14.4 User given message on the page that an error happened but they aren't given any information on what to do next. There's no information on the screen to indicate what to do next. P6 04:46.9 User tries multiple times to get the check to scan after receiving the iqa failure P6 06:06.4 'I think I should be told the check wasn't placed correctly and that's the reason why it failed iqa.' P7 07:00.2 The user accidentally scanned the front both times... when he re-scanned the back image and returned to the deposit summary screen, the check had an iqa error. Why did scanning the back cause an iqa error? P2 09:07.6 Even though the user scanned correctly the first time and the software messed up, when she re-scanned it, the check failed with 'IQA' P2 09:08.6 'I don't know what IQA means' P6 12:40.3 Application generated an iqa error after the user re-scanned the back... Why? The error message says to rescan front. P3 12:51.3 IQA error P6 14:29.9 'I might just take this check to the bank. It's been three times. I don't know why it's not able to scan' P6 16:15.6 Having better instructions on how to re-scan the check after the iqa failure.

Help

Title	**Help**
Slide	

Issue	Two (out of nine) participants made any mention of the help. One noticed it after the fact and commented that the help icon was too small. The other participant searched help but were unable to find what they were looking for (i.e., customer support). This ties into the problem with the short error messages not providing enough details on how to recover from the problem.
Possible Improvement	Consider an approach like WiseIP Exception Recovery: Have better link between error messages and help to describe process user needs to recover
References	P2 17:21.8 User noticed help but said it was too small P4 13:26.3 User looking for some kind of link or something to say how to contact customer support.'

Links vs Buttons

Title	**Links vs Buttons**
Slide	
Issue	• Two participants missed the "Add Another Check" link, clicking on the Submit Deposit button instead because it is much more prominent. Other participants hesitated before clicking it. • One participant couldn't find the remove this check link.
(Potentially) Bigger Issue	Do people "get" the buttons vs link, primary vs secondary tasks. Some participants expressly said they liked them, others said they were too distracting.
Suggestion	Adding another check to the deposit is one of the primary tasks for this page. It should be a button.
References	P3 09:51.8 User clicked submit deposit instead of add another check button by accident. P2 04:13.8 When user when to add another cheque, the pointer first moved to submit deposit button. May indicate that the Add Another Check button should be promoted to button. P2 05:02.9 User like the green button to show choice but commented that the add another check link should be the same P4 05:43.0 User hesitates around pressing the Add another check link... indicates that she felt directed to click the submit deposit button. P3 07:12.9 Some button hesitation about adding a new check P5 06:11.1 User 'jumped the gun' and placed the check at this screen before pressing the add another check. He also didn't remember the amount of the check before putting it on the scanner. Also, watch the mouse movement--first it goes to button then right to the link. Since Adding cheques is a primary task of the screen, Add Check should be a button. P2 04:45.7 User like green button to easily get to next step. Commented that the 'Add Another Check' was different. Maybe add another check should be promoted to button as well. Impacted by average number of checks per deposit. The four-check deposit task might be influencing this. P6 15:10.8 After being shown Add Another check button user said he noticed it but was too P6 05:50.3 User clicked submit deposit instead of adding another check... another reason to make the Add Another check link a button and place it to the left of Submit Deposit. P1 17:32.1 User needs help on how to remove check from deposit

Unable to Scan

Title	**Unable to Scan**
Slide	

Issue	I updated wording between sessions but this screen still needs work: • It doesn't provide enough information about the grid (or at least a call-out to help). • It doesn't provide the user with enough information about manual scanning • Since the list is presented in numbers rather than bullets, that implies a sequence, which really isn't the case. Maybe we should just show the grid paper info first (and launch into it from here) if that fails show different information for the manual scan (again, launch the UI from here)
Suggestion	If we decide to bypass the grid, turn this into a full page of instructions for manual scan. Also don't "remember" manual mode. Need to re-think workflow.
References	P9 04:55.3 Doesn't like the three options presented like this. These are sequenced like steps but should be bullets? Looks like we're expecting them to fail. P1 09:27.8 After the grid failed, the first item says to try manual scan but the second item says to cancel the check. P1 09:29.7 The user canceled the check without trying the manual mode. However, the system engaged manual mode anyway which confused her later on.

Cropped Check

Title	**Cropped Check**
Slide	
(Potential) Issue	Several auto-scanned images seemed to pass IQA but they are visibly missing their left edge. Is this okay to keep these images since they pass IQA?
References	P4 04:18.3 Check cropped slightly on the left side P3 05:51.3 front image looks cropped P5 10:55.8 Check was cropped but message says the check scanned successfully. P4 12:04.1 Looks like check clipped a little on the left side P8 14:11.9 'I don't think it got the whole item...'

Back of Check On Deposit Summary Page

Title	**Back of Check On Deposit Summary Page**
Slide	

Check Appearance On Deposit Summary Page
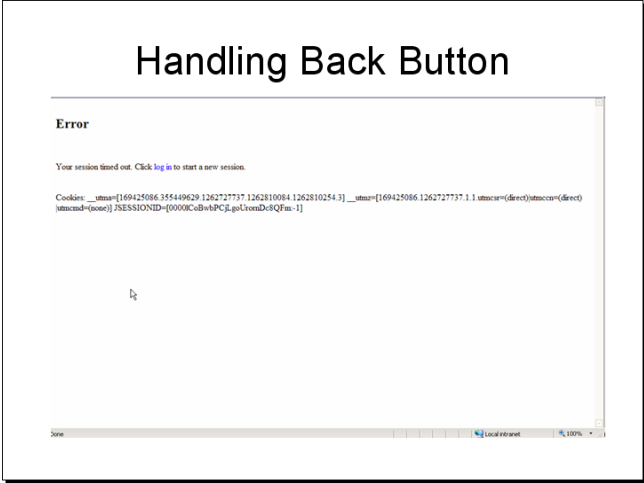
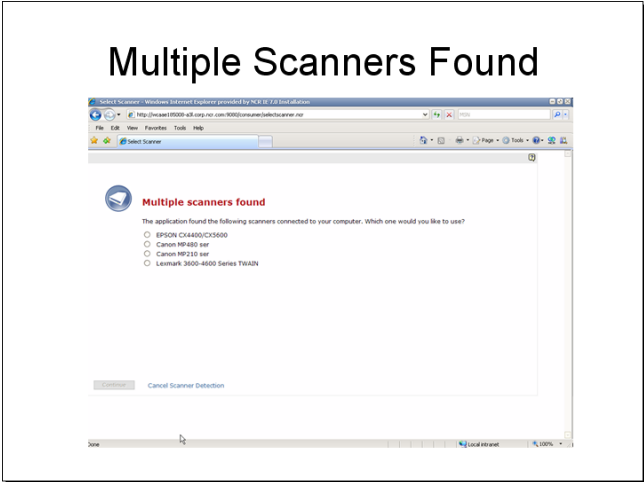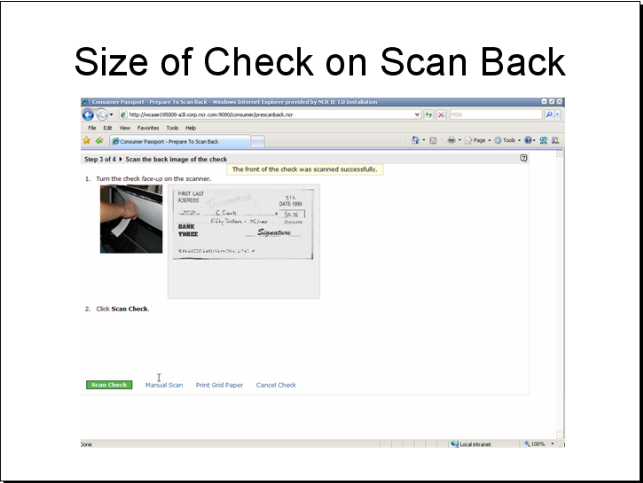|	
Issue	The back image (auto-scanned) looks like it is missing part of itself and has parts of the background. One participant thought he did something wrong but there is no error message. Is this image okay for a back image?
References	P5 08:09.8 'It looks kind of odd when you have two different sizes beside each other' (talking about the auto scan results for the back of the check) P5 09:54.0 Same problem with the back image not being scanned properly P5 10:02.8 Follow up to the distorted back image on the deposit summary screen – 'Looks like you did something wrong' P1 01:51.4 User did not type the amount with a decimal point. May be due to history with other payment software typing amounts without decimal points.

Handling Back Button

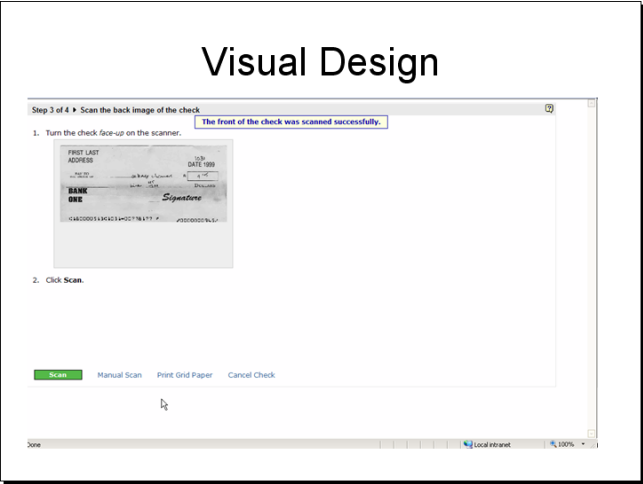|	
Title	**Handling Back Button**
Slide	
Issue	The participant clicked the browser's back button after submitting the deposit and wanted to go back to confirm what they sent. The application displayed this incorrect error message. Clicking the forward button again, the participant was back at the the Successful Deposit page. From there she could add a new deposit.
References	P3 10:02.0 User clicked back button and got an error page P7 17:07.5 'I can't go back, can I?' [[to double check the deposit images]]

Multiple Scanners Found

Title	**Multiple Scanners Found**
Slide	

Issue	This is the multiple scanners found page when I tested users. It includes all twain capture devices whether they are connected or not. Is there a way to filter this list to show only plugged-in scanners? One participant thought this was an error screen when it's really not. Consider re-styling it
References	P5 03:25.0 If the epson is the only capture device working, why can't we just show it? P9 02:50.4 'At first I thought this was an error screen' Why do we list all twain devices rather than just the ones that are plugged in. If this screen's going to be here all the time, consider re-stying the screen so it doesn't look like an error dialog.

Size of Check on Scan Back

Title	**Size of Check on Scan Back**
Slide	
Issue	The default width of the check on the pre-scan back page is too small for wider checks.
Solution	Tweak the styles.css to increase the size of the image.
Reference	P8 20:33.2 On the scan back of check page, the check image isn't large enough for extra-wide checks

Visual Design

Title	**Visual Design**
Slide	
Issue	One participant did not like the layout of the scan front/back pages because (without the grid information) it looks too close together
References	P3 08:31.3 'Don't really like the placement... use of whitespace' User P3 11:38.7 User commented that instructions for turn the check face-up gets drowned out by the message and the green button. This issue was addressed by de-emphasizing the message and adding a graphic that shows the check being turned over. Needs to to be confirmed that this actually addresses the problem. P3 19:09.4 'If there were a question for if it was visually appealing it would get a low grade'

Missed Instructions

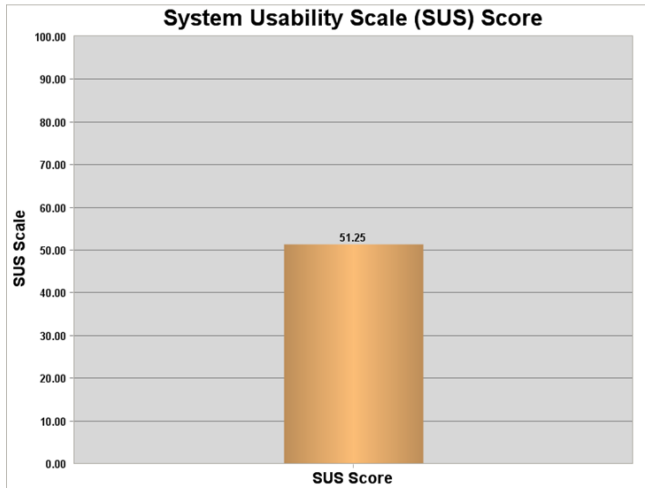| Title	**Missed Instructions**
Slide	

Missed Instructions

Issue	• One participant missed the instructions that said to flip the check. • Two participants complained that between the message and the green button, it was difficult to notice the text instructions.
Suggestion	Re-added flip image to add more contrast with first page. Needs to be verified.
Reference	P6 11:06.6 User clicked the button without flipping the image. Re-added image of flipping check--need to confirm whether or not this worked.

System Usability Scale (SUS) Score

Title	**System Usability Scale (SUS) Score**
Slide	

Dark Cloud group (D-)

System Usability Scale (SUS) Score

51.25

SUS Score

Overall (C-)

System Usability Scale (SUS) Score

64.72

SUS Score

Completion Rate

Title	Completion Rate
Blue Sky	60% of participants (3/5) were able to submit a deposit without assistance. Since one cheque was intentionally un-depositable, participants needed to remove this cheque before proceeding. Two participants required moderator assistance to remove the "bad" cheque and then submit the deposit.
Grey Cloud	100% of participants (4/4) were able to submit the deposit without help. All the cheques were depositable, although some failed IQA and had to be removed.
Explanation	As part of the test, the moderator served as "Customer support". When the participant was directed to contact customer support, the moderator provided the appropriate direction.

No labels