FORMATIVE EVALUATION OF *CYBERCHASE THE QUEST*
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During two independent half-hour sessions, eight third graders from a Long Island elementary school were observed individually while playing *Cyberchase The Quest*. Students played the game on a 15" Macintosh iBook with a USB optical mouse, accessing the game from the hard drive using Internet Explorer 5.2.3. Detailed procedures, player descriptions and play observations are presented in the Appendix.

Students enjoyed playing the game very much and were interested in playing more, giving all "5" highest ratings at the end of the hour exposure. They liked the unexpected little activities, the games and characters. They understood the idea of earning snelfus, saving, buying and trading, to the extent such could be observed in the hour of play. Problems observed and lessons learned are summarized below.

OPENING SCREEN
Players were told that they could choose "About the Game" or "Enter the Game." Six of eight players chose to read "About the Game" for the first session; a seventh player chose to read "About the Game" when starting the second session.

ABOUT THE GAME
Five of the six players used "More" to read most of the screens. The player who chose not to had difficulty reading.
In one screen, Jackie says "they will definitely try mess things up." The word "to" is missing, as in "try to mess."

ENTER THE GAME and MAKE A NEW PLAYER
Students did not have difficulty making a player, although they hesitated to click on the word "accept." Some tried to click "Select character." When asked what word the game should use instead of "accept," most were satisfied with "accept" once they saw what the choice did. Or perhaps the game could use "keep" or "select" in place of "accept." Players understood "back" and "save."
An observation about one character: Poodle 1's number one turns backwards on occasion, for example, when it gets on the cyberbus, its head turns a different direction and its number is written backwards. This is cute but possible confusing.

CONTROL CENTRAL
All students heard Motherboard's (MB) audiovideo message and most understood the majority of it when questioned immediately after. After playing for an hour, however, one student clearly did not understand the goal of collecting items of

hardware to help Motherboard, and another student wanted to hear again Motherboard's presentation later on in her session. Players can easily be distracted while listening to the presentation and miss important information. We need to consider what happens when a player misses the main quest goal. There should be a way to play MB's presentation again, other than making a new character - perhaps a <repeat> or <rerun> choice within Control Central; or through a button next to Quit and Help; or a button on the Skwak pad; or perhaps a character out in one of the environments can ask if the player wants to hear MB's message again.

The boombox is shown in MB's message as one of the items needed, however, it is not actually needed for this quest. Two students bought the boombox, recalling the visual from MB's presentation. They also misidentified the boombox image as "glasses."

PLAYER'S ROOM

After hearing MB's message, several students clicked into the player's bedroom and walked around aimlessly. It is discouraging to start the game by roaming about this room, so there needs to be a message for new players who choose the bedroom first, or perhaps signs above the doors: YOUR ROOM and TO CYBERBUS or TO QUEST.

CYBERSTATION and TICKET SCREEN

Messages clearly directed students to buy a ticket.

At the ticket screen, the third graders really hesitate because they don't know which ticket to buy or why. It becomes a trial and error method for many. Maybe that's good for adventure, but it may also turn off kids at home the <u>first</u> time they go there, because they have no idea which destination to take. No student thought to look at the Skwak Pad and read the cybernews for information nor to ask for a hint from the Cyberkids nor even to click the help button at the bottom left. There may be premature quitting for home players when presented with the ticket lineup and no hint of a direction to take. Perhaps, for a new player at the beginning of a quest, we should substitute a Help Wanted Ad Poster from Castleblanca for Buzz's Donut Shop Ad in CyberStation. Perhaps that Ad space could change as the quest goes on, particularly as a player collects items and is still missing the final can of cryoxide. The ad could then show Buzz's Donut shop making Chocoberry Chillers or the Two-Headed Man wanted traders.

A few students thought they could get to CyberMall with a green ticket (and if you are a New Yorker, you could, because a local train stops at express stops also!) However, a green ticket in Cyberspace does not stop at CyberMall and this could create unneeded frustration. CyberMall probably needs its own line in the map.

Players understood how to buy a ticket and return to the station.

The tunnel in Cyberstation says "to all cybercoupes," however signs in the various worlds all refer to "cyberbus." Be consistent and change the Cyberstation sign from Cybercoupe to Cyberbus. Additionally, the "to all cybercoupes" sign is not obvious to players and the font is difficult to read. Students did not know where to go after using their ticket, sometimes ending up back in Control Central, even after playing through the first half-hour session. Consider a different position for the tunnel sign or different words to make the entrance more obvious. Perhaps a sign on the ground or on the blue wall, under the green light, saying THIS WAY TO CYBERBUS or TO CYBERBUS with a (possibly active) directional arrow. The ticket screen could reinforce

the cyberbus concept by saying at the bottom left, BUY CYBERBUS TICKET instead of just "Buy Ticket."

MOVING ABOUT

Green arrows are sometimes not very obvious and sometimes partially hidden behind things. Perhaps this is good because it means that kids will click accidentally on something interesting, but it can also be frustrating because your character doesn't go where you expect it too. Some students had difficulty seeing the green arrows in the camouflage of the ground/floor and suggested less blurry arrows or a more contrasting color. Several kids had trouble seeing arrows even when they knew the arrows were there. For example, when a player exits Binky's Buy/Trade screen, the arrow is hidden behind a big character like a gigabyte; in R-Fair City, the character stands on top of the exit arrow when getting off of the Cyberbus, and when approaching Lucky from the right side screen, the character stands directly on top of the arrow; in Castleblanca, the character also covers the arrow when dropped into the Two-Headed Man screen.

Many students clicked on signposts in their first session, thinking they would be transported to the named place.

One student changed his mind about going to a place after the cyberbus landed. In order to leave, we needed to quit and return, or click on the green arrow to go to the next screen and then click the green arrow to return to the cyberbus. Consider programming so when players change their minds, they can get back on the bus without leaving the arrival screen.

HELP

Two students used the lower left "help" button, one with my encouragement. Neither seemed to feel that the function added to their knowledge at the time.

LOCATING A JOB

Locating a job was a difficulty for a couple students. Looking in the Skwak Pad for Cybernews was not a spontaneous action. Students recalled MB mentioning Help Wanted signs but did not recall the need to look in Cybernews. The few students to whom I recommended Cybernews also missed seeing or understanding the headline "Logic Zoo is hiring."

One of the players was focused on buying things, not on earning money.
Is there a way to have a hint come up about how to earn money when the snelfu count is very low?

SKWAK PAD

Students could figure out how to open and close the Skwak pad, closing it with the X or clicking at the top right or the button on the middle right side. A few students noticed that MB's message showed a visual of the Skwak pad buttons that is different from how the Skwak pad buttons actually function. Their initial interaction with the pad was influenced by the visual in MB's message, but with trial and error, they learned what the buttons did.

Snelfus: Students understood the message and function.
Stuff: Students understood the message and function.
MB: "Get the details on your current quest from MB" was not a useful message. The students suggest a different message that better describes the button function: "See what you need to collect for the quest."

Arrow: The arrow was not frequently chosen. Perhaps a "more" could be added on top of the arrow.

X: Since the Skwak pad is programmed to close by clicking anything but the active buttons, using the X button for another function may be important to more effective play. Consider moving the Cybersquad hint or the Cybernews button to the front of the pad in place of the X. Deleting the X frees up two buttons; one on each side of the pad. Perhaps one of the freed buttons could permit a replay of MB's message or part of it.

Digit: Clicking on Digit to contact the Cybersquad for a hint was rarely done.

Skwakopedia: This function was looked at by one player.

Cybernews: No one spontaneously looked at Cybernews, only by my direction. When students did look at the news, a few missed the third headline. Move "help wanted" headline to the top of the three headlines.

MAPS

Three of the eight players buy maps but are not aware of where the map ends up after they buy it. Perhaps the map could open up immediately after purchase or the map icon could flash in the lower right after it is first bought. One player notices the map turning green to show "you are here" in Aquariyum; this function was helpful to her.

CYBERMALL

Stores: On occasion, players did not click inside a store because they did not see an item in the displays that they thought they needed to collect. This was most common in Creech's Surf Shop.

Buy/Trade functions: Players quickly figured out how to use the Buy and Trade functions. The use of the Main Menu to return to a Buy or Trade screen was infrequent; that design may need to be rethought, although students could always "exit store" and return to get the buy and trade main menu.

Binky's: A few players clicked on the chair behind the cat and rather than getting the Buy/Trade screen, their character moved unexpectedly behind the chair. Widen the clicking area around the cat. After clicking "exit the store," the cat is sometimes in the chair and sometimes not in its chair.

Wicked's: When a player clicks on the Egyptian eye, the buy/trade screen does not open up, but when clicking someplace else, the screen does open up. In the Buy screen, the berries are referred to as "cyberberries" whereas they are referred to as "strawberries" in Buzz's donut shop. Be consistent in the name references to these berries throughout the game as kids can be very literal in their interpretation.

Mr. Z's: No problems observed.

Creech's: No problems observed.

R-FAIR CITY

Items: One student shook the cyberberry tree and clicked the Simon game once. One player released some balloons. One player clicked the spitting fish. Two players tried the golf game very briefly. Two picked up the blueberry pie and played the pinball machine. Three students clicked on the birds and enjoyed the noise – one associated the birds to the game, "Whack a Mole." As time went on, students became a little more active in their clicking on items, whether they lit up or not.

Characters: Players worked with Erica Ram, but those unfamiliar with the shows were unable to answer the questions. Lucky was clicked on but is not functioning yet.

Lost and Found: One student came to the Lost and Found and did not click on the window because no character was there. One player thought the things displayed in the Lost and Found were his "stuff." One student picked up the blueberry pie and correctly returned it to the Lost and Found when he gets there. The pie sentence says, "Deci gave me a pies …" , plural, instead of "Deci gave me a pie…", singular.

Donut Museum and Gift Shop: One student asked what to do if they saw Buzz or Delete, since a Buzz is sitting on top of the Donut sign. One of the three students to visit this area visited the museum briefly and clicked on one exhibit. In the gift shop, players did not relate the term "shake" to a chocoberry "chiller." Also the chiller takes "strawberries" whereas the players are picking up "cyberberries." Modify so that consistent terminology is used.

Logic Zoo: Students enjoyed playing the Logic Zoo, and earning the snelfus. There seemed to be a problem with the outside pen accepting animals. It is confusing to have an animal sent back when you know it should be in the outside pen. Sometimes the outside does not accept the correct animal; the player needs to move the animal to a different part of the outside pen. It appears that "outside" is defined as only at the bottom. Sometimes it looks like the animals won't all fit at the bottom "outside" area. In addition, clicking on help makes a player start over entirely. Is it possible to not start over if a player clicks on help?

CASTLEBLANCA

Items: Two players clicked and enjoyed the music box. Two players clicked on the pumpkin. Three players clicked the statue and picked up the wig gels. Three players clicked on the spider; two stayed around to watch the antics and none picked up the broom.

Eerie Inn: Students enjoyed answering the troll's question. Players did not have difficulty playing the bat game and persisted to the end.

Haunted Hangout: Three players received the message from the two-headed man but did not have a chiller to trade.

Creepy Castle/Mansion: The map identified this area as "Creepy Castle," whereas the signposts identify it as "Mansion." Be consistent in terminology. Players were told that this area was not working.

AQUARIYUM

Items: One student enjoyed "moving" the shark around, trying to catch it.

Three players enjoyed the taco-eating fish.

Three players clicked on the fish eye/antenna. There is a difficulty here: If one clicks the green arrow and then the fish eye/antenna immediately after, the fish pops out, the character moves to the next screen and the mouse arrow disappears. So clicking the green arrow followed by the fish eye/antenna makes the mouse arrow disappear. One has to quit the game to get the mouse icon back. There may be some interaction with the fish eye/antenna programming and the mouse.

Several players clicked the fish and watched the octopus eating pizza; however, there is a bug in this feature: on one occasion, a player watched the pizza eating but no eye was revealed; on another occasion, a player clicked on the pizza and was awarded the eye without any pizza eating; another time, the pizza was eaten and one could see the eye, which the player picked up.

Manny: Students enjoyed answering Manny's riddles numerous times. On one riddle, however, the font makes it difficult to distinguish between a number one and a number seven.

Crab Castle: Players were told that the Throne room was empty. Some readers had difficulty with the word or the font of "blubber" in the Crab Prince's message about a password. Perhaps a different font or a larger presentation of the password would help.

The Abyss: Players were very focused in their attention on the cave entrance to the extent that they missed the snail. The snail face was in peripheral vision and not salient to their needs at the time. Players needed help to "see" the character. Move the character to the front of the cave entrance.

Entering the password was difficult for some players and revealed some functional problems. When they typed incorrect letters, there is no mechanism to correct mistakes, other than closing the dialogue box and clicking on the character to try again. When players type into the box this second time, double and triple letters appear, as in bbbll. We then need to quit and come back into the abyss.

MISCELLANEOUS
One player realized that she did not need to buy the boom box to meet MB's needs. She wanted to 'delete and get her money back.' A return policy is an interesting complication – perhaps in the next quest.