CS160 - SiQuoia Test Plan

Version 1

Team Q06

November 24, 2013

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Revision History

Date	Reasons for change	Version
11/24/2013	Initial creation	v1

Contents

1.   Introduction

1.1.   Purpose

This document contains the test plan for all components of the SiQuoia system, based on the requirements voted on by the class. The test plan defines a systematic and detailed approach for testing the system. This document is intended for all the stakeholders of the SiQuoia system.

1.2.   Scope

The SiQuoia software implements an online multiple choice question (MCQ) game. This document covers the test plan in order to ensure that SiQuoia meets all the requirements specified by the client. This document also covers the traceability matrix for the SiQuoia system so that all the requirements can be traced back to the design and test cases.

1.3.   List of definitions and abbreviations

1.3.1.   Definitions

functional requirement	requirement that defines a specific function of SiQuoia
game store	feature of SiQuoia whereby users may purchase quiz packets and memorabilia
nonfunctional requirement	requirement specifying criteria that can be used to judge a function of SiQuoia and that persists throughout the system
SeQuoia	SiQuoia, Inc. (industry industry leader in providing education, training and certification software for corporate training via simple quiz programs testing learning and retentivity)
SiQuoia	Simple Intelligence Quotient Increasing Application
topic	specific subject of a question; a topic can have multiple subtopics, which have full characteristics like a topic
quiz	test with 20 questions and four answers for each question, with only answer being correct

1.3.2. Abbreviations

MVC   Model-View-Controller design pattern

MCQ   multiple choice question

1.4.   Overview

This document is organized as follows. Section 1 is an introduction to the Test Plan document. Section 2 consists of the Test plan, and section 3 contains the Traceability matrix.

2.   Test plan

The test plan covers how the implemented requirements will be tested, the expected results of running these tests, and whether the actual result matches the expected result.

2.1.   Test matrix

Req. No.	Test No.	Test Case Description (Steps to Test)	Expected Result	Pass (Y/N)	Priority
Login					
FR01	T01	Open the SiQuoia game website.	The homepage displays the SiQuoia logo, register button, gamer login fields, and guest login button.	Y	High
FR02	T02	On the SiQuoia login screen, select gamer registration and enter a unique email address (does not already exist in the system), password, and password confirmation to register.	If valid information is provided, the gamer is successfully registered (added to the system) and is redirected to the gamer page.	Y	High
FR03	T03	On the SiQuoia login screen, select gamer login and enter the username and password of a registered gamer.	The gamer is successfully logged in and is redirected to the gamer page.	Y	High
FR04	T04	On the SiQuoia login screen, select guest login and enter a unique email address.	The guest gamer is logged in and redirected to the demo quiz.	Y	Low
FR05	T05	On the SiQuoia login screen, select merchant login and enter a valid merchant code.	The merchant user is redirected to a page with a feature to submit a branded packet.		Low
FR06	T06	On the SiQuoia login screen, select admin login and enter the admin username and password.	The admin user is redirected to a page with a feature to verify submissions.		High

Game Packets (see "Question & Answer" for more info)					
FR07	T07	After logging in as a gamer and accessing the game store page, purchase a quiz in any category, select a game mode, and begin playing.	The user is redirected to a quiz packet in the format of four answers to one question, with only one answer being correct.		High
FR08	T08	After beginning a quiz, play through the questions to view different types of quiz question content (text or multimedia).	The quiz questions will contain at least of the following forms of content: plain text, audio, graphics, or video.		High
FR09	T09	After beginning a quiz, play through the questions to observe the display changing appropriately (quiz question increments as each new question is accessed, number correct increments if a question is answered correctly, and number of seconds decrements from 20 for each question).	Quiz questions will display one at a time, along with the question number, number of correctly answered questions in this packet, and number of seconds at the top of the question screen. As each new question is accessed, the question number is increased by 1. If a question is answered correctly, the number correct is incremented by 1, otherwise it is unchanged. The number of seconds begins at 20 seconds once a question is accessed, then decrements by 1 second until it reaches 0 or the user clicks the "next" button.		High
FR10	T10	After beginning a quiz as a registered user, play through any number of questions between 0 and 19 (inclusive), then press the pause button or exit the Webpage.	The current quiz is paused (if the Pause button is pressed, then the user cannot perform any action on the quiz), and the state of the quiz is saved into the system for the user to resume at a later time.		High
FR12	T12	On the game store page, purchase a quiz in any category, select a game mode, and begin playing.	The user is redirected to a quiz packet of 20 questions that is generated based on the category selected.		High
FR13	T13	After logging in as a gamer, begin the demo quiz.	The user is redirected to the demo quiz, with 20 questions and 4 answers each, displayed in the same order each time it is taken.		High
FR14	T14	After logging in as a registered user, select a game mode to view the list of categories.	A list of packet categories are displayed for the user to choose from, falling under the category tier of subject, topic, or subtopic.		High

Game Mode					
FR17	T15	On the game store page, purchase a quiz in any category, select learning mode, and begin playing.	The user is redirected to a quiz packet with no time counter. Instead of automatically loading the next question at the end of 20 seconds, the quiz will only generate a new question if the "Next" button is pressed.		High
Purchase					
FR18	T16	After beginning and pausing a quiz, access the game store to purchase a new quiz.	The system displays an error message to the user which states that the user has an unfinished quiz and must either finish or abandon it before purchasing a new quiz.		High
FR19	T17	On the game store page, choose a category and click purchase.	The purchase is processed. After payment is verified, a quiz packet is generated based on the category selected.		High
FR20	T18	On the game store page, do not select a category and click purchase.	The purchase is processed. After payment is verified, a quiz packet is generated with questions potentially pulled from any subtopic.		High
Payment					
FR21	T19	On the game store page, select any packet or memorabilia and click purchase.	Upon validation, the cost of the packet or memorabilia is subtracted from the user's SiQuoias, and the item is awarded to the user.		High
Ranking					
FR25	T20	Play through any quiz category in normal mode and answer questions with either a correct answer or an incorrect answer.	If a question is correctly answered, the ranking is increased by 1. Otherwise, the ranking is unchanged.		High
Question & Answer					
FR27	T21	Play through any quiz category in any mode.	Quiz questions are displayed one at a time, switching to the next question when the question timer reaches 0 seconds or the user clicks the "next" button.		High

Reporting					
FR33	T22	After logging in as a registered user, access the game reporting page and view the running tally of correctly answered questions; play through any quiz category in game mode, answering questions with either correct or incorrect answers; and re-access the game reporting page.	If a question is correctly answered, the running tally is increased by 1. Otherwise, the tally is unchanged. Tallies for questions not present in the quiz packet are also unchanged.		High
FR36	T23	After logging in as a registered user, access the game reporting page and view the running tally of purchases and expenditures for the user; access the game store page and purchase either a packet or memorabilia; and re-access the game reporting page.	For a purchase of either a packet or memorabilia, the running tally for the appropiate item is increased by 1 and the total expenditure is incremented by the value of the item purchased.		High
FR37	T24	After logging in as a registered user, access the game reporting page and view the running tally of points earned; play through any quiz category in game mode, answering questions with either correct or incorrect answers; submit a quiz question; and re-acces the game reporting page.	After playing through a quiz, the running tally for points earned from correctly answered questions is incremented by number of questions answered correctly in the quiz. After submitting a question and it is verified, the tally for points earned for submissions is incremented by 1. If the submission is not verified, then the tally is unchanged.		High
FR38	T25	After logging in as a registered user, access the game reporting page and view the points used to purchase packets and game memorabilia; access the game store, purchase game memorabilia and packets; re-access the game reporting page.	When a packet is purchased the cost in points is added to the total spent so far on packets. When game memorabillia is purchased the cost in points is added to the total spent so far on game memorabillia.		High
Branding					
FR44	T26	On the branded packets page, enter a valid code to access the associated packet and play through the quiz.	The user is redirected to the branded quiz packet and can play through it like a normal quiz, but the user is not awarded points for questions correctly answered.		High
Cloud Computing					
NF01	T27	After beginning a quiz as a registered user, play through any number of questions between 0 and 19 (inclusive), then press the pause button or exit the Webpage.	The current state of the quiz is saved into the database and stored on the cloud.		High
NF02	T28	After pausing a quiz, access the quiz page and click the resume button.	The state of the saved quiz is loaded from the cloud for the user to resume, beginning at the same question that the user paused on.		High
Security					
FR57	T29	Login into to SeQuia and navigate through all the pages in the website	All the webpages in the SiQuoia must have Copyright mentioned		Low
Deployment					
NF10	T30	Open the SiQuoia quiz game from any major browser (Chrome, Internet Explorer, or Firefox).	The SiQuoia homepage appears for the user to interact with.		High

3.   Requirement traceability

The traceability matrix contains the requirement, description, type of requirement (E — essential, D — desirable, O — optional), where the requirement can be located throughout the design process, and whether it has been implemented in the code.

3.1.   Traceability matrix

Req. No.	Requirement	Description	Type	SRS	Context Model	MVC Arch-itecture	Process Model	State Trans-ition Diagram	Use Cases	Class Diagram	Arch-itect-ural View	Imple-men-tation
Login												
FR01	Splash screen	Homepage with logo, Register button, Gamer Login fields, and Guest Login button in the center; merchant login button, branded packet button in bottom corner	E	pg 9,11								x
FR02	Gamer registration	Enter unique email and password (and matching confirm password) to register	E	pg 7, 9, 11, 12			x	x	x	x	x	x
FR03	Gamer login	Enter email address and password to access UI with all features enabled	E	pg 8, 9, 12				x				x
FR04	Guest login	Enter unique email address to access UI with partial features (demo quiz) enabled	O	pg 9			x	x	x			
FR05	Merchant login	Enter merchant code (provided by SiQuoia) to access UI with Submit Packet feature	O									
FR06	Administration login	Enter admin account, password to access UI with Verify Submission feature (others if time permits)	E	pg 5,16				x	x			

Game Packets (see Q&A for more info)													
FR07	Format	Quiz questions are in the format of four potential answers to one question, with only one choice being the correct answer.	E	pg 4, 5, 15, 19						x		x
FR08	Multimedia	Quiz questions may contain plain text, audio, graphics, or video content.	E	pg 16								
FR09	Display packet statistics	Quiz questions are displayed one at a time, with "Question #/20", "Correct: #", and "# seconds" at the top of each question.	E									
FR10	Pausing	The current quiz is saved when the user either presses the Pause buton or exits the Webpage.	E	pg 6, 14, 15				x	x			
FR11	Abandonment	If a user chooses to discard the current quiz, points are earned for questions answered correctly but the user is not refunded for the remaining questions.	O									
FR12	Questions	Quiz packets are comprised of 20 questions and are constructed upon purchase.	E	pg 14						x		
FR13	Demo packet	The demo packet is comprised of 20 questions and is the same packet each time.	E	pg 15					x			x
FR14	Categories (3 levels)	Subject, topic, or subtopic (all is "hidden" category)	E	pg 14						x		x
FR15	Branded packet	Separate from user login, provided by company (no verification of Q/A's necessary), special code to access packet, company logo as packet icon, certificate provided at end of quiz	O	pg 19			x					

Game Mode													
FR1 6	Normal (timed)	# seconds per question (+# if contains multimedia), 1 point earned for each question answered correctly (both to the current quiz score which is to be displayed at the end of the quiz, as well as the user's total points earned), auto progress to next question after time is up or question is answered, no correct answer given	D	pg 15					x				
FR1 7	Learning	No time limit per question, no points awarded, and do NOT display the correct answer when an incorrect selection	E	pg 15					x				
Purchase													
FR1 8	One packet at a time	Users may have only one packet at a time (either finish or abandon a packet before purchasing a new quiz).	E										
FR1 9	Purchase in any category	Subject, topic, or subtopic (if no category is chosen, a packet is randomly generated from a pool of all availabile questions)	E	pg 14						x			
FR2 0	Random selection	Packet constructed from random selection upon purchase	E	pg 14						x			
Payment													
FR2 1	SiQuoias	Points used to purchase quiz packets and memorabillia	E	pg 4									
FR2 2	Paypal	Website for payment	O										
FR2 3	Credit	MC/Visa/Amex	O	pg 10, 12, 13, 16, 17									
FR2 4	Debit	Debit card	O										
Ranking													
FR2 5	Implementati on (simple)	Default value is 0, increment by 1 each time it is answered correctly, then sort in decreasing order	E	pg 4, 15						x			
FR2 6	Implementati on (complex)	Sort by subject, topic, and subtopic	O										

Question & Answer												
FR27	Display questions (one at a time)	One question is displayed at a time (simple)	E	pg 4, 5, 15,19							x		x
FR28	Display questions (several at a time)	Several questions are at a time (complex)	O									
FR29	Answer selection	Can change answer before clicking next	O	pg 14, 15				x	x			
FR30	Automatic progression	In Normal mode, automatically progress to next question once the time has run out.	O	pg 15							x	
FR31	Allow time for multimedia to complete	Add additional time, in seconds, to allow multimedia to complete	O									
Reporting												
FR32	Correctly answered (historical)	# correct / # total for each individual packet	O									
FR33	Correctly answered (running tally)	# correct	E	pg 15								
FR34	Leaderboard	Rank by highest correct answers (top 10?), ties resolved by FIFS	O	pg 15, 16, 19	x		x	x	x	x	x	
FR35	Purchases (by date)	List of individual packets, memorabilia, and expenditure	O									
FR36	Purchases (by running tally)	Total number of packets, memorabilia, and expenditure	E									
FR37	Points earned	Total points earned from correctly answering questions, submitting questions (received after verification), referring friends (received after the friend registers)	E	pg 15, 16, 19	x		x	x	x	x	x	
FR38	Points used	Points used to purchase packets/game memorabilia	E	pg 4,10,16,19								
FR39	Expired points	Points that expired	O									
FR40	Interface to social network	Post progress analysis to social networking website, like Facebook, Twitter, Google+	O	pg 10, 15, 16	x		x	x	x		x	
Royalty Program												
FR41	Gamer referrals	Reference code used to refer new users	O	pg 10, 15, 16								
FR42	Question submissions	UI for submission (registered users) and/or verification (administration)	O	pg 5, 10, 16	x		x	x	x			
FR43	Name on question submission	Display "Submitted by: gamer name" on quiz in packet	O									

Branding															
FR4 4	Gamer access	Special code required to access these packets (it only grants them access to the Branded Quiz UI, not the rest of the Registered User UI). No points earned for these packets	E	pg 19			x								
FR4 5	Certification	Certificate awared to the user upon completing the quiz packet	O												
FR4 6	Packet submission	Packets of any number of questions (questions have 4 anwers each, with only one being correct) submitted by the company	O					x	x						
Cloud Computing															
NF0 1	Game status	Store the status of the quiz in the cloud	E	pg 10	x								x		
NF0 2	Game resumption	Resume the quiz from the cloud	E	pg 10	x								x		
Model															
NF0 3	MVC	Game designed using MVC pattern	E			x									
NF0 4	Software patterns	Uses other software patterns	O												
NF0 5	Distributed, tiered architecture	3-tiered architecture	E			x									
Security															
NF0 6	Password	Encrypt passwords	E	pg 10, 11											
NF0 7	Personal information	Personal informaion is secure (stored separately from the game information)	E	pg 10, 11											
NF0 8	SiQuoia financial information	Financial information is secure	E	pg 10, 11											
NF0 9	IP	Add Copyright to all pages of website and documents	E												
Deployment															
NF1 0	Web	At minimum, SiQuoia must run on a Web browser	E	pg 10	x	x									
NF1 1	Android	Andriod-compatible	O												
NF1 2	iOS/Mac OS X	Apple-compatible	O												
NF1 3	Windows Metro (Windows and Phone)	Windows mobile-compatible	O												