Introduction

This test plan shall ensure the functionality of the entire computer builder website from front to back. The three main parts of this website are the web scraping, database, and website. Each part will be tested thoroughly to keep the website running efficiently since each part depends upon the others. For the web scraping part, the goal is to test each individual function to verify that the data being pulled is up to date, relevant, and accurate. The goal of database testing is to check that the information obtained from web scraping is stored correctly and can be pulled efficiently by the website. While testing the website, the goal is to ensure that customers can easily navigate the website and purchase a computer with no hassle.

Approach

The following testing is designed to assess the reliability and speed of the website from front to back. These tests will include function calls, button clicks, and data insertion/deletion. The test method that will be used is white box testing because the tester knows all the internal components of the product. These tests will be executed manually due to multiple moving parts.

Test Case ID	1	Test Case Description	Check database connection		
Tester's Name		Nate	Test Date	03/01/2024	

S #	Prerequisites	S #	Test Data
1	MySQL Database	1	Host = localhost
2	Web-scraping Program	2	User = root
3		3	Password = ******
4		4	Database = ComputerParts

Step #	Step Details	Expected Results	Actual Results	Pass/ Fail / Not Executed / Suspended
1	Launch web-scraping program	You are connected		
2	Wait for program to finish execution	You are disconnected		
3				

Test Case ID	2	Test Case Description	Check that all records are deleted from each table in the database		
Tester's Name		Nate	Test Date	03/01/2024	

S #	Prerequisites	S #	Test Data
1	MySQL database	1	Table full of data
2	Web-scraping program	2	
3		3	

Step #	Step Details	Expected Results	Actual Results	Pass/ Fail / Not Executed / Suspended
1	Run MySQL query to delete all records in each table	Each table should be empty		
2	Run MySQL query to show all records in each table	Each query should return empty set		
3				

Test Case ID	3	Test Case Description	Check that records are inserted properly into the according table		
Tester's Name		Nate	Test Date	03/01/2024	

S #	Prerequisites	S #	Test Data
1	MySQL Database	1	Name (varchar 200)
2	Web-scraping Program	2	Price (decimal(6,2))
3		3	table
4		4	Insert into query

Step #	Step Details	Expected Results	Actual Results	Pass/ Fail / Not Executed / Suspended
1	Run insert into query on table	Record inserted into table		
2	Run a select all query on table	New record should be in the table		
3				

Test Case ID	4	Test Case Description	Check that main function runs on a 24hr timer		
Tester's Name		Nate	Test Date	03/01/2024 – 03/02/2024	

S #	Prerequisites	S #	Test Data
1	MySQL Database	1	URLs
2	Web-scraping Program	2	
3	BeautifulSoup library	3	

Step #	Step Details	Expected Results	Actual Results	Pass/ Fail / Not Executed / Suspended
1	Run main.py	You are connected		
2	Wait for disconnect message	You are disconnected		
3	Keep program running for 24hrs	You are connected, you are disconnected		

Test Case ID	5	Test Case Description	When you click the purchase button on the website is loads invoice.php in a new tab		
Tester's Name		Nate	Test Date	03/01/2024	

S #	Prerequisites	S #	Test Data
1	MySQL Database	1	Part names
2	Web-scraping Program	2	Part prices
3	Website	3	
4		4	

Step #	Step Details	Expected Results	Actual Results	Pass/ Fail / Not Executed / Suspended
1	Go to website in browser	Website loads in browser		
2	Select desired computer parts	Price is updated and names of selected parts is shown		
3	Click the purchase button	Invoice.php loads into a new tab in browser		

Test Case ID	6	Test Case Description	Check that getProductInfo function pulls every item on each page only if it has a listed price		
Tester's Name		Nate	Test Date	03/01/2024	

S #	Prerequisites	S #	Test Data
1	MySQL Database	1	URL
2	Web-scraping Program	2	An empty array
3	BeautifulSoup library	3	

Step #	Step Details	Expected Results	Actual Results	Pass/ Fail / Not Executed / Suspended
1	Call getProductInfo passing a URL as a parameter	The array is full of data where every even position in the array including 0 has is a string name and odds are prices stored as double		
2	Get the size of the array	Array size is even		
3				

Test Case ID	7	Test Case Description	Check that runPages function will run recursively until there are no more pages		
Tester's Name		Nate	Test Date	03/01/2024	

S #	Prerequisites	S #	Test Data
1	MySQL Database	1	URL
2	Web-scraping Program	2	
3	BeautifulSoup library	3	

Step #	Step Details	Expected Results	Actual Results	Pass/ Fail / Not Executed / Suspended
1	Call runPages passing a URL as the parameter	Run pages calls itself (number of pages – 1) times		
2				

Test Case ID	8	Test Case Description	Check that getData function will return a string full of html code		
Tester's Name		Nate	Test Date	03/01/2024	

S #	Prerequisites	S #	Test Data
1	MySQL Database	1	URL
2	Web-scraping Program	2	
3	BeautifulSoup library	3	
4		4	

Step #	Step Details	Expected Results	Actual Results	Pass/ Fail / Not Executed / Suspended
1	Call getData function passing URL as a parameter	Returns a string containing all the html code from the requested URL		
2				
3				
4				

Test Case ID	9	Test Case Description	Check that the price updates as user selects different parts		
Tester's Name		Nate	Test Date	03/01/2024	

S #	Prerequisites	S #	Test Data
1	MySQL Database	1	Part names
2	Web-scraping Program	2	Part prices
3	Website	3	
4		4	

Step #	Step Details	Expected Results	Actual Results	Pass/ Fail / Not Executed / Suspended
1	Go to website	Website loads in browser		
2	Change a part	Total price updates to reflect change in price		
3	Change a different part	Total price updates to reflect change in price		
4				

Test Case ID	10	Test Case Description	Check that the website dropdowns populate with everything in the appropriate table		
Tester's Name		Nate	Test Date	03/01/2024	

S #	Prerequisites	S #	Test Data
1	MySQL Database	1	Part names
2	Web-scraping Program	2	Part prices
3	Website	3	
4		4	

Step #	Step Details	Expected Results	Actual Results	Pass/ Fail / Not Executed / Suspended
1	Run web-scraping program	Database is updated with fresh data		
2	Go to website	Website loads in browser		
3	Select a part dropdown menu	Every part listed in that corresponding table is shown to the user		
4				