Copart

Test Plan

Version *3*

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3.0	*Oday, Hassan, Almuhannad and Ali*	*25/12/2024*			

Table 1

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1.0 INTRODUCTION

The goal of the test plan report is to test the Copart website, one of the largest vehicle auction companies in the world. Copart is an American company that operates in 11 countries around the world, has over 200 locations, and has over 175000 vehicles up for auction every single day. Copart specializes in selling used vehicles as well as salvage title vehicles. Copart is involved in serving various sellers including insurance companies, rental firms, municipalities, and charities (About Copart - the Premier Destination for Auto Auctions, n.d.). Therefore, this report focuses on some testing strategies that could assess Copart's performance, including speed, reliability, and responsiveness under various loads to ensure that the website is running without any issues. Accessibility testing is implemented to ensure that users of all abilities can effectively interact with the website, which is important for Copart's reputation and customer satisfaction. Usability testing is done to make sure that the website is user-friendly and to evaluate the overall usability experience. Documentation testing is done to check the accuracy and clarity of the information provided. Lastly, User Acceptance Testing (UAT), the team has worked on conducting surveys using Google Forms to gather direct feedback from users to identify the key areas for improvement. Each member of the team has been assigned to work on a specific part of the project including the objectives and tasks performed, the scope of the testing plan, the environmental requirements, the testing schedule, the resources used for the testing, and the responsibilities of each member of the team and the risks that the team could face throughout the project.

2.0 OBJECTIVE AND TASKS

2.1 OBJECTIVE

The focus of this test plan is to explain the activities that are required in order to test the Copart website for its usability, documentation, performance, accessibility and User acceptance testing. This document will be the test plan for the Copart system, confirming that the system is able to operate as per the designed objectives. To avoid random incidences in this procedure, each of the team members will be delegated specific duties in detecting and correcting flaws. The test plan

will therefore enhance the comprehensive assessment of the website, and any such useful feedback which may be raised will be recorded and submitted for resolution purposes, to maintain an optimal interface and usability of the site's objectives.

2.2 TASKS

As the name implies -test plan-, one of the tasks to be performed for this project is to conduct different types of tests. There are five testing methodologies that will be adopted regarding this project: performance testing, user acceptance testing, accessibility testing, usability testing, and documentation testing. Each of the adapted testing methodologies will require a different set of resources to be carried out. These tests will help find any errors and problems with the website overall. The emergent issues are scheduled to be reported following testing.

3.0 SCOPE

The project scope for testing Copart's website is about maintaining coherency and a user-friendly interface in relation to its major features which are car sales, purchases and auctions. Having said that, since Copart is a global marketplace operating in several countries, it is obvious to implement testing processes aimed at different users. Such as: finding out how fast the system moves as well as its reliability and performance range, making it easy to navigate through each feature of the system, validating the intended features of the system through its users, and making sure the system can be used by people with disabilities. Questionnaires and feature inspections will, however, be used in user acceptance testing to capture the views of people who use the product. Access Scan, Accessibility Checker, and visual manual testing tools like Color Oracle and Simulation Protanope Application will enable the relevant authorities to deliver on their accessibility compliance requirements. Also, capturing usability testing by WebPageTest, and PageSpeed insights. In addition to documentation testing using checklist. Conduct performance testing by Gatling tool. The account creation and registration processes have also been covered in scope so that the user experience is impressive during onboarding. Localization and database testing are, however, excluded from this scope now that the emphasis is on functional, rather than site specific. Finally,

the focus of these testing activities, therefore, is to achieve an effective website which works perfectly well and does not disappoint users when they use the services offered by Copart.

4.0 Testing strategies

Software testing is a technique to make sure there are no defects or problems and to check if the results produced match what was anticipated. Because there are so many options available, choosing the ideal testing software technique can be difficult. A software testing strategy describes how, when, and what to do in order to get a high-quality end product. Below is a list of the strategy used for Copart testing.

4.1 Documentation testing

Test documentation is a collection of documents created both before and during the testing process (Inna Feshchuk, 2021). Documentation is considered as a key component of successful test execution and quality assurance in manual testing (The Importance of Test Documentation in Manual Testing: Types & Best Practices, 2024). We targeted the new member guide for our documentation testing. The objective of this testing strategy is to check if the new member guide is suitable for explaining to the new member how Copart works and answer any questions they have. We will be testing it by following a checklist which checks if all the links work, information accuracy, there is no technical jargon and use of pictures and figures to explain the steps these are some of the criteria. The documentation testing will be manual testing.

4.2 User acceptance testing strategy

User acceptance testing (UAT), sometimes referred to as application testing or end-user testing, is a stage of software development where the program is put to the test by its target user base in real-world settings. UAT is often the final stage of software testing and is carried out prior to the tested program being made available to the target market. UAT is to verify that software can manage practical activities and meet development requirements (Gillis, 2022). Verifying that the system or software satisfies business requirements and is prepared for deployment is the main goal of user

acceptance testing. It focuses on confirming that the program fulfills end users' demands, behaves as anticipated, and does its intended tasks. Organizations can improve the usability, functionality, and overall quality of their software by incorporating the intended users in the testing process. This will increase satisfaction among users and ensure successful product deployments (Gurnani, 2024). The user acceptance testing will be conducted manually by creating a questioner and sending it to users of Copart website and by doing feature inspections with new users of Copart website. The Copart website's User Acceptance Testing (UAT) aims to verify the usability and operation of the new member guide, auctions, car sales, and user registration. Users provide comments on the guide's functionality, clarity, and general satisfaction by using questionnaires to assess how simple it is to register, bid on automobiles for sale, participate in auctions, and navigate the site. To make sure users can register easily, bid on cars efficiently, post cars for sale without any problems, and use the new member guide for beginning, feature inspections involve systematically verifying these essential areas. These techniques guarantee that every user has a seamless and simple experience with the website. With feature inspections we will invite new users of Copart website to accomplish some tasks that we have previously prepared and see how easy for them to finish these tasks and note any comments from the new users.

4.3 Usability testing strategy

Usability testing is the measure of how user can interact with a system or product efficiently and effectively to achieve their goals. In our testing plan because it is about testing website, usability testing refers to the interaction between users and websites or applications for achieving their goals and to get things done in a smooth way. All the following are considered as a part of usability Learning, effectively using them, memorability, minimizing the rate of errors, and user satisfaction (A. Anandhan, S. Dhandapani, H. Reza and K. Namasivayam, 2006, 495-500). Usability plays a significant role in ensuring user satisfaction, especially in web applications like Copart. Which involves extensive user interaction for online automation auctions. The CARE methodologies provide a structured and cost-effective approach to usability testing, which focus on predefined tasks, observing user interactions, and gathering direct feedback to identify pain points and enhance the user experience (Web Usability Testing, CARE Methodology, 2006). For Copart we will conduct the usability testing by using automated tools like WebPageTest and PageSpeed

insights. These automated tools provide services for usability and performance testing or measuring but the mean focus here is about usability measuring. WebPageTest is a tool that evaluates websites by simulating real-world user interaction, measuring metrics like page load times and visual stability across different devices and browsers (Catchpoint | Internet Performance Monitoring (IPM), n.d.). PageSpeed insights, provided by google and it is for evaluation of a website's performance and usability on both mobile and desktop platforms. Also offering insights and recommendations for improving speed, such as optimizing images and reducing render-blocking resources, ensuring a faster and more efficient user experience (NitroPack, n.d.). Using the CARE methodologies, the usability of Copart can further streamline through a step-by-step process. These include defining the usability goals, drafting task lists for the users and observing their operations to identify (A. Anandhan, S. Dhandapani, H. Reza and K. Namasivayam, 2006, 495-500). Testing feedback collated through such campaigns along with the data obtained through tools such as WebPageTest and PageSpeed insights allows for targeted improvements like optimized navigation or resolving technical bottlenecks. This would ensure that a Copart's site is built for usability, ensuring the smooth and satisfactory experience for the diverse users visiting the site. This will encourage the use and the trust of the Copart.

4.4 Accessibility testing strategy

Accessibility testing is basically a type of testing that focuses on how people with disabilities can use the website. The main goal of implementing accessibility testing is to make sure that individuals with disabilities can use the website without any issues. In general, web-based applications and websites that are following the Web Content Accessibility Guidelines (WCAG) are accessible. The World Wide Web Consortium (W3C) developed WCAG, which is now the international standard for web accessibility compliance and influences web accessibility regulations worldwide (What Is Accessibility Testing? - AccessiBe, n.d.). The reason why our team has chosen to implement accessibility testing for Copart website is to make sure that customers and users with any disabilities can use the website effectively without any issues. We have used some of the most popular and accurate automated AI website accessibility testing tools to help us achieve the goal of making Copart accessible and usable by all users these automated AI tools include:

• AccessScan: AccessScan is a free web testing tool that uses AI in order to simulate user-testing and scan websites to identify accessibility errors and indicate exactly where the issue is. AccessScan was initially designed as an internal auditing solution focused on accessWidget, the leading web accessibility product, to ensure improvements were aligned on accuracy. (Why Test Your Website With accessScan? - accessiBe, n.d.).

• Accessibilitychecker: AccessibilityChecker is a free automated AI based tool that is used for checking accessibility against the ADA and WCAG implementation, which later checks for deep problems within web accessibility and shares with a set of specific recommendations on how to solve them (Accessibility Checker, n.d.). The AccessibilityChecker website scanner's free version made available in 2019 has been the immediate tool that any company and developers might prefer as it checks for accessible websites. (About Us - Accessibility Checker, n.d.).

• Color Oracle: It is a free simulator for color blindness that works with Linux, Mac, and Windows. By displaying what people with typical color vision impairments will see in real time, it eliminates the need for guesswork when designing for color blindness (Color Oracle | Color Oracle, n.d.). It can help Copart to identify the colorblindness accessibility errors for all types of color blindnesses visually.

• ColourSimulations: Real-time simulations of typical types of hereditary red-green color blindness are available through the ColourSimulations application. For users who are both prototypical and deuteromalous, the program offers help with color discrimination. Options for color discrimination include filters, color swaps, the inverse transformation, and the Daltonize method (ColourSimulations - Free Download and Install on Windows | Microsoft Store, n.d.). Similarly to Color Oracle it can help Copart to identify the colorblindness accessibility errors visually except it only works for one type of color blindness which is known as protanopia.

4.5 Performance testing strategy

Performance testing is a test that discovers how well the system, software application, or website performs under different scenarios. At the end of performance testing, bottlenecks and

performance issues will have been tested through testing the behavior of the system during nominal, peak, and stress conditions. It includes measuring and evaluating performance metrics such as response time, throughput, and resource utilization and scalability across various workloads and conditions. For example, performance tests may include a scenario with a given number of concurrent users, being subjected to a huge number of requests, or being worked under extreme circumstances that the system would be expected to support. Thus, an organization will be able to derive insights through performance testing about what the system is really and capable of doing versus what can be improved. We need performance testing:

1. **User Satisfaction**: Testing efficiency is a key aspect of performance testing as it shows and verifies whether the system performance meets expectations for the user. Gatling provides metrics such as response times, throughput, error rates, and latency. Organizations can enhance customer retention through the delivery of superior user experience by improving the reputation of organizations and getting ahead in the market.

2. **System Reliability**: Performance testing involves exposing the system to different workloads to identify areas like bottlenecks, scalability limitations, or even failures in the system. Proactive addressing of the points helps enable a good stabilization of the system, thereby making them reliable enough to absorb expected loads with no crash or downtime.

3. **Scalability Assessment**: Increasing workloads and user demands need to be met by systems and applications. Organizations can understand how their systems perform under different load levels to find the limits of scalability and make optimizations where necessary so that there is accommodation for future growth.

4. **Performance Optimization**: With the help of such measurements as response time, throughput and resource utilization, an organization can detect performance bottlenecks, use allocated resources to their maximum efficiency and improve the entire system performance. Performance Testing helps an organization to optimize usage and give the best performance of its systems.

5. **Risk Mitigation**: The great consequences which performance problems can pose for business are problems in financial loss, customer dissatisfaction, or reputation damage. Performance issues should be addressed before they cause serious production failure and risk mitigation.

Performance testing indeed is an important procedure to ensure that the Copart website performs well and can handle large volumes of traffic coupled with complex user interactions. Given the fact that Copart, Inc. is a global leader in online car auction and remarketing services, it is highly critical to test the capacity of the platform to perform transactions from automotive resellers in 11 different countries. In addition, Copart has over 10,000 acres of vehicle inventory and more than 200 locations; therefore, the Copart website must reliably serve high traffic of users, data transactions, and real-time bidding activities without a performance glitch.

To ensure that the Copart site meets the performance expectations set for the global audience, we have also evaluated performance testing tools such as Gatling and BlazeMeter.

One such use of Gatling, the best load-testing instrument, is that we replicate highly trafficked conditions for the Copart site. Thus, we were able to measure the performance with dynamic variations such as browsing postings, placing bids, and completing a transaction. The important performance metrics, like response time, throughput, and error rates provided by Gatling, helped us find bottlenecks so that we can optimize the site.

The overall performance and load testing on the Copart website were done with the help of BlazeMeter, and this was exactly how we could create very complex user experiences of searching for cars, participating in an auction, and/or even buying. With rich metrics from BlazeMeter, the site can be revealed about its ability to sustain heavy traffic and how well it can remain stable when under pressure. This tool also kept identifying and fixing problems that occur in performance, thereby continually ensuring the reliability and quickness of the site even at peak hours.

Tools like these facilitated the Copart website in terms of accepting users globally with high loads and the unpredictable nature of their vehicle auction and remarketing services. Performance Testing has been done all through to ensure that this solution is ready to support Copart in the most brilliant way possible for resellers and consumers alike across the world.

5.0 Environment requirements

5.1 Hardware requirements

In this section we will mention the different tools we used to conduct the tests. For the hardware requirements we would need to have a desktop computer or personal computer with high internet speed, good processing power and at least 8GB RAM.

5.2 Software requirements

We are conducting five different types of tests and for each type we use more than one software. For the performance testing we will use Gatling and Blazemeter. For the accessibility testing we will be using AccessScan, Accessibilitychecker, Color oracle and Simulation Protanope. WebPageTest and PageSpeed insight this two software's are going to test the useability. Additionally, we will use Ganttpro for project scheduling, Google Forms to make questioners for user acceptance testing and Google Docs so we can have a shared working space to produce a good report.

6.0 RESOURCES AND RESPOSIBILITIES

Member	Responsibility	Resource

Hassan Al Balushi	· Implementing accessibility testing to ensure that the website is accessible for users of all abilities and can effectively interact with the website. · Dividing the work among the team members so each member works on a different part of the testing plan report.	Accessibility testing online tools: 1. AccessScan https://accessibe.com/accessscan?website=https://www.copart.com/ 2. Accessibilitychecker https://www.accessibilitychecker.org/audit/?website=https%3A%2F%2Fwww.copart.com%2F&flag=us 3. Simulation Protanope Application (Manual tool) https://apps.microsoft.com/detail/9nblggh4385h?hl=en-US&gl=US 4. Color Oracle (Manual tool) https://colororacle.org/
Oday Al Muharbi	· Performing User Acceptance Test strategy (UAT) by conducting surveys to gather direct feedback from users to identify any main issues that require improvement	User acceptance test (UAT): 1. Questionnaire (Google froms) https://docs.google.com/forms/d/e/1FAIpQLSekRNulFupbw8k9PE6UU8GOP22HQ9oRU6WXLn9_8edHyGJxRA/viewform?usp=sf_link Documentation testing:

and preforming feature inspection with new users. · Documentation testing to check if the information provided on the website is accurate and clear. · Assigning tasks related to testing strategies.	1. Copart new member guide https://www.copart.com/content/us/en/pdfs/newmemberguide.pdf 2. Checklist

Al Muhannad Al Shukaili	· Implementing the usability testing using online tools to make sure that the website is user-friendly and to evaluate the overall usability experience. · Contributing to writing the objectives of the project and tasks assigned to each member. · Writing the scope of the testing plan.	Usability testing online tools: 1. Pagespeed insights https://pagespeed.web.dev/ 2. Webpagestest https://www.webpagetest.org/
Ali Al Hamadani	· Testing the performance of the website which includes speed, reliability, and responsiveness under various loads.	Performance testing online tools: 1. Gatling https://gatling.io/ 2. BlazeMeter https://www.blazemeter.com/

	· Creating a GANTT chart for test scheduling. · Identifying the risks of the project.	

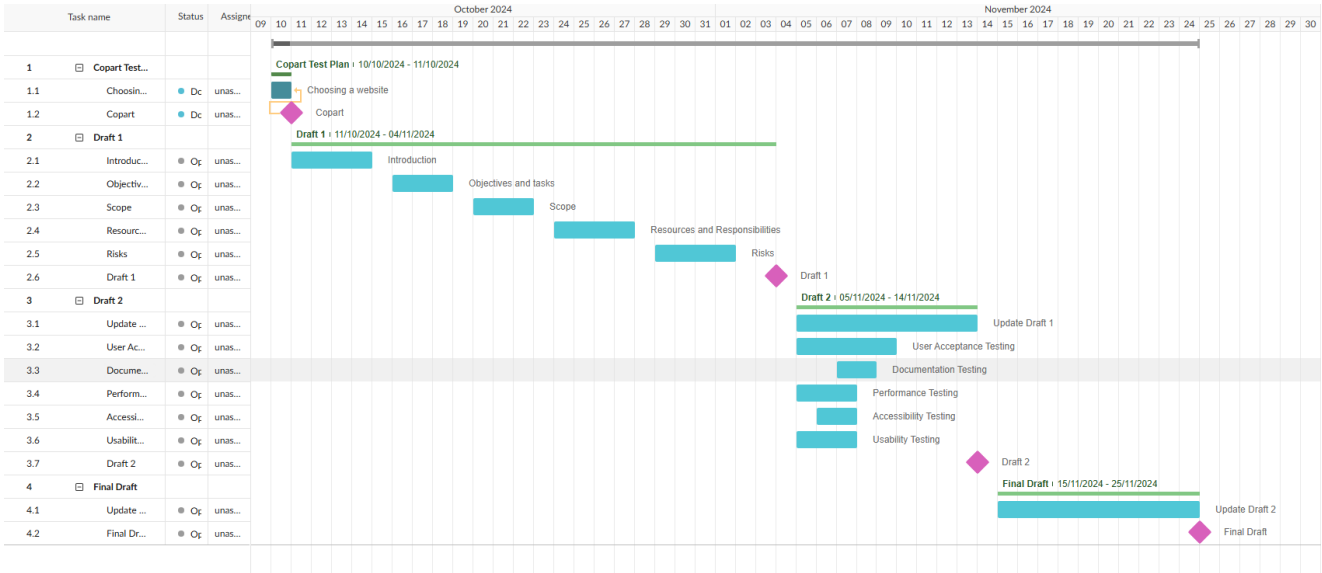*Table 2 RESOURCES AND RESPOSIBILITIES*

7.0 Test schedule

Figure1: Test Schedule Gantt Chart

8.0 Risks

Risk	Impact	Likelihood

Scope creep	High	High
Schedule	Moderate	High
Difficulty of Use	Low	Moderate
Project member leaving	High	Low

Table 3: Risk evaluation

Scope creep risk: Unapproved and unplanned modifications to the project's initial scope could result in the additional expense of features, goods, or services (10 Common Project Risks (Plus the Steps To Solve Them), 2024). Since we are testing Copart which is a large website the likelihood of this risk is high, and the impact of this risk is high because it will add on more work which takes time and we might not deliver the project on the deadline, but by restating the initial project scope and analyze any addition of test if it adds good value we will add it to the project scope, that would help us overcome this risk. Table 3 would show the impact and the likelihood.

Schedule Risk: When there is a significant chance that the project will not be completed by the scheduled time, schedule risk occurs. Any project is subject to this risk, which can be caused by a variety of factors like incorrect work time estimation, overlooking the critical path, or unable to consider the resources required to finish the work (Bridges, 2023). The likelihood of this risk is high because we are students that have different schedules and other projects, and the impact of this risk is moderate because it can influence the time needed to finish the project. Table 3 would show the impact and the likelihood. We can mitigate this risk by creating an accurate work schedule which takes into consideration every participant's schedule in this project.

Difficulty of Use Risk: The project may face several difficulties if the methods, software, or tools employed are too complicated or difficult to use. Our inability to do duties quickly increased the possibility of mistakes and misunderstandings. This danger may shorten deadlines, reduce team

productivity, or possibly lower the output's quality. We also had trouble implementing new procedures or technology as we lacked the necessary expertise or training. The impact of this risk is low because we can use different and easier websites to conduct the test. The likelihood of this risk is medium because there are a lot of websites that can do automated testing. Comprehensive training programs, an easy-to-use tool selection, and consistent support should be taken into consideration to solve this and guarantee that we can operate effectively and with confidence. Table 3 would show the impact and the likelihood.

Risk of one Project Member Leaving: There can be a lot of problems with project members leaving like: schedule, missing the ability to act quickly and losing skills and point of view. The likelihood of this risk is low because we are a team that have worked together before on different projects and we understand each other's situation. The impact of this risk is high because if someone leaves, we will get work overload, and with the other projects that we are working on it would make a huge problem with the time schedule. Table 3 shows the impact and the likelihood. We can mitigate this risk by transferring team members into pairs so they can work together and if one of them leaves the other team member can finish the job.

9.0 Test Cases

9.1 Accessibility Test Case

The following are two tables that indicate the test cases of accessibility errors found in Copart's website, these errors are found using AccessScan and AccessibilityChecker online accessibility testing tools that show results based on (WCAG).

ID	A11Y_1
Scenario	Make sure that touch targets are sufficient size and space

Line of code	div.social-media-icons-block > div.d-f > div.text-center > a div.social-media-icons-block > div.d-f > div.text-center > a div.social-media-icons-block > div.d-f > div.text-center > a div.social-media-icons-block > div.d-f > div.text-center > a
Pass Condition	The target size is sufficient
Fail Condition	The target size is insufficient
Expected Results	For people with low eyesight, the icons have been upsized to improve visibility.
Actual Result	People with low vision may find it difficult to use icons because of their small size.
Final say	The minimum size requirement for touch targets is 24 by 24 CSS pixels. The touch target's greatest unobscured area is used to calculate size. It must be feasible to draw a virtual circle with a diameter of 24 pixels that is centered on the target and does not cross any other targets or circles on other undersized targets if the target is too small.

Table 4: Accessibility Test Case1

ID	A11Y_2
Scenario	Make sure that the contrast between foreground and background colors meets WCAG 2 AA minimum contrast ratio thresholds
Line of code	- div#global-notification-carousel > div#global-carousel-banner > div#global-default-banner-1 > p<p> - div#global-carousel-banner > div#global-default-banner-1 > p > a<a href="https://www.copart.com/content/us/en/flood-car-auctions-every-week-day">
Pass Condition	The color contrast ratio of the website must adhere to the WCAG guidelines.
Fail Condition	The website's characters have a low ratio of color to contrast.
Expected Results	The website will be easy for people who are color-blind or have visual impairments to access.
Actual Result	The website will be highly difficult for people who are color-blind or have visual impairments to access.
Final say	People who are colour-blind or have visual impairments will have an extremely hard time navigating the website if the characters have a poor

	colour contrast ratio. Red and green could appear to a colour-blind person as just yellow or grey.

Table 5: Accessibility Test Case2

9.3 Documentation Test Case

This section shows the documentation testing test case which was done manually with a checklist. We chose to test the new member guide.

ID	DC1
Scenario	New member guide should help new user to use and navigate the Copart website
Checklist	-Information is accurate and up to date. -No technical jargon or ambiguous language. -Key terms are explained clearly. -Examples are relevant and correctly demonstrated. -Documentation follows a logical flow. -Sections are appropriately divided with meaningful headings. -A table of contents is present and accurate.

	-Provided links work correctly. -Consistent use of fonts, styles, and formatting -Highlighting or emphasis (e.g., bold, italic) is used effectively. -Sentences are concise and free of grammatical errors. -Users can easily find the information they need. -Instructions and steps are easy to follow. -Use of pictures and figures to explain the steps. -Version history is included for tracking changes.
Pass Condition	At least 80% of the criteria is met
Fail Condition	Less than 80% of the criteria is met
Expected results	It should follow 90% of the checklist
Actual Result	80% of the checklist is met it didn't have a table of content and accessibility issue, and it

	didn't use pictures and figures to explain the steps.
Final Say	New member guide pass but Copart needs to add a table of content so users and access the information they need fast and easy

Table 6: Documentation Test Case

9.4 User Acceptance Test Case

This table will demonstrate the user acceptance test case which was done manually. We implemented the user acceptance testing through questionnaire and feature inspection with new users of Copart this test cases will talk about the feature inspection which was done with four individuals SQU student, UTAS student, University of Sharjah and an adult. All these four participants had the same results which will be shown in the test case.

ID	UAT 1
Scenario	Participants would have 3 tasks to do in the Copart website and we will record notes and take recommendation from the users
Tasks to be done by the users	Task1: Try to find the new member guide. Task2: Try to find the cars auctions. Task3: Try to find specific car.
Pass Condition	At least 2 of the tasks done easily

Fail Condition	All of the tasks cant be done by the users
Expected results	All the tasks are done easily
Actual Result	All four participants had a problem with finding the new member guide, but the rest of the tasks were done easily
Final Say	Participants had some recommendation for Copart: - Copart should add AI chatbot - New member guide should not be found in only one place, or it should be a popup screen or at least can be found with the support materials

Table 7: User Acceptance Test Case

9.5 Usability Test Case

The Following tables represents a test case for the usability testing of the user interface, particularly the home screen of Copart's website. This test case was conducted using automated tools to determine whether the website was usable, meaning that the home page offered sufficient functionality for users to easily complete the registration and auction processes. Automatic test measured different usability features and assessed whether all aspects of usability criteria were present, the registration was intuitive and efficient, and easy to use, and that it was a good auction system.

ID	USA_TC001

Scenario	Automating the usability of the registration process for buyers and sellers on the Copart website
Testing Metrics	- Use WebPageTest to measure registration page load time for new users. - Verify field responsiveness and inline validation for user roles - Validate the confirmation email trigger and activation process using WebPageTest. - Check dashboard load time after login with PageSpeed Insights.
Pass Condition	- Registration is fast and responsive, user roles are correctly handled, and confirmation email is timely.
Fail Condition	- Registration delays occur, roles are misclassified, or confirmation email fail.
Expected Result	- Registration process is intuitive and efficient for both buyers and sellers.

Actual Result	- To be recorded after the testing in conducted.
Final Say	Registration testing validates usability for all user type and suggests improvements if needed.

Table 8: Usability Test Case1

ID	USA_TC002
Scenario	Automating usability testing of the vehicle auction process for sellers on the Copart website.
Testing Metrics	- Use WebPageTest to measure the load time of vehicle listing pages. - Validate the process of uploading vehicle details, photos, and descriptions. - Test real-time updates to sellers when bids are placed. - Ensure accurate reporting of auction results.
Pass Condition	- Sellers can list vehicles, receive accurate updates, and view complete auction results seamlessly.

Fail Condition	- Sellers face errors during vehicle listing or delays in bid notifications.
Expected Result	- Sellers can manage auctions with ease, from listing vehicles to reviewing auction outcomes.
Actual Result	- To be recorded after the testing is conducted.
Final Say	Auction testing validates usability for sellers and suggests areas for performance optimization.

Table 9: Usability Test Case2

9.6 Performance Test Case

The following table represents a test case for performance testing of the system, focusing on response times, throughput, and scalability using the Gatling tool. This test was conducted to measure how well the system performs under various load conditions, including normal, peak, and stress scenarios. Gatling was utilized to automate load testing, enabling the assessment of system stability, resource usage, and the ability to handle high transaction volumes effectively. The objective was to identify potential bottlenecks and ensure the system remains reliable and efficient under all tested conditions.

ID	PERF_CPT001

Scenario	Automating the performance testing of system response times, throughput, and scalability using Gatling.
Testing Metrics	- Use Gatling to simulate varying levels of user load and measure response times for critical functionalities. - Validate throughput to ensure it meets expected transaction volume under peak loads. - Monitor resource utilization (CPU, memory) under sustained load scenarios. - Check system recovery and performance degradation during and after stress testing.
Pass Condition	The system meets defined performance metrics, maintains stability, and scales effectively under varying loads.
Fail Condition	The system exhibits slow response times, fails to handle peak loads, or shows instability under stress.
Expected Result	The system should provide optimal performance, handle increased loads

	seamlessly, and recover efficiently from stress conditions.
Actual Result	To be recorded after testing is conducted.
Final Say	Performance testing validates system scalability and stability and identifies areas for improvement if required.

Table 10: Performance Test Case1

The following table represents a test case for performance testing of the system, focusing on response times, throughput, and scalability using the BlazeMeter tool. This test aimed to evaluate the system's capacity to handle dynamic user loads, ensuring it can scale effectively while maintaining stability. BlazeMeter was utilized to simulate concurrent users and capture detailed metrics on response times, throughput, and resource consumption. The purpose was to pinpoint performance bottlenecks and confirm that the system can sustain high-demand conditions without degradation.

ID	PERF_CPT002
Scenario	Conducting automated performance tests for response times, scalability, and resource efficiency using BlazeMeter.
Testing Metrics	- Simulate concurrent users with BlazeMeter to evaluate response times for critical operations.

	- Measure throughput to verify the system can handle expected transaction volumes. - Assess CPU, memory, and network usage under varying load intensities. - Observe recovery behavior after stress testing to ensure no lingering performance issues.
Pass Condition	The system maintains stability, meets throughput targets, and operates efficiently under different loads.
Fail Condition	The system exhibits slow response times, fails to scale, or consumes excessive resources.
Expected Result	The system should deliver consistent performance, efficiently manage resources, and recover smoothly after stress.
Actual Result	To be recorded after testing is conducted.
Final Say	Performance testing ensures the system's resilience and scalability, with recommendations for addressing any identified bottlenecks.

Table 11: Performance Test Case2

10.0 Conclusion

In this test plan report for the Copart website, we effectively implemented out a thorough approach that covered documentation testing, user acceptance testing (UAT), usability testing, accessibility testing, and performance testing. Automated tools and traditional methods were used, with well-defined test cases for each testing strategy. Documentation testing assured correctness and compliance with requirements, while UAT verified that the website fulfilled business requirements in real-life situations. Usability testing evaluated interface design and navigation flow, providing consistent user experience, while accessibility testing verified WCAG compliance to promote integration. Performance testing validated the website's scalability, stability, and responsiveness in a variety of load scenarios. Most functionality fulfilled approval requirements, and highlighted usability, accessibility, and performance concerns were addressed to improve the user experience. Based on the findings of this report, the website has become ready for deployment, with recommendations for ongoing monitoring and regression testing to ensure quality and adapt to user demands.

APPENDIX A: References

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APPENDIX B: Checklist

Documentation Testing Checklist

Company: Copart

Target: New member guide

Checklist

☑ Information is accurate and up to date.

☑ No technical jargon or ambiguous language.

☑ Key terms are explained clearly.

☑ Examples are relevant and correctly demonstrated.

☑ Documentation follows a logical flow.

☑ Sections are appropriately divided with meaningful headings.

☒ A table of contents is present and accurate.

☑ Provided links work correctly.

☑ Consistent use of fonts, styles, and formatting.

☑ Highlighting or emphasis (e.g., bold, italic) is used effectively.

☑ Sentences are concise and free of grammatical errors.

☒ Users can easily find the information they need.

☑ Instructions and steps are easy to follow.

☒ Use of pictures and figures to explain the steps.

☑ Version history is included for tracking changes.

APPENDIX C: Feature inspection findings

Feature Inspection: UTAS student

Question1: Try to find the new member guide

Notes: could not find it

User notes: it should be with the support material

Question2: Try to find the cars auctions

Notes: found it easily

User notes: easily done

Question3: Try to find a specific car

Notes: found it easily

User notes: no note

overall user notes: new member guide it should be at least on the front page

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Feature Inspection: UOS Student

Question1: Try to find the new member guide

Notes: couldn't find the new member guide

User notes: should be in the help center

Question2: Try to find the cars auctions

Notes: found it easily

User notes: it was easy

Question3: Try to find a specific car

Notes: it was easy to find a specific car

User notes: no note

overall user note: it should be easy to find guides for using the website

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Feature Inspection: Normal Adult

Question1: Try to find the new member guide

Notes: It took a long time to find it

User notes: it should be with the support section

Question2: Try to find the cars auctions

Notes: found it easily

User notes: easy task

Question3: Try to find a specific car

Notes: found it easily

User notes: too easy, bring more

overall user notes: new member guide should be easy to find

Feature Inspection: SQU student

Question1: Try to find the new member guide

Notes: couldn't find the new member guide

user notes: it should be on the front page or a popout screen

Question2: Try to find the cars auctions

Notes: found it easily

user notes: no notes

Question3: look for a specific car in auctions

Notes: it took some time to find a specific cat

user note: confusing search methods

overall user notes: should add AI chatbots, new member guide should have its own sections