7COM2001-0901-2024 Responsible Technology

Your team is tasked with conducting conformance testing on a web page that has undergone multiple redesigns over time. This task involves using the WAVE tool to evaluate both the current and archived versions of the website, accessible via the Wayback Machine at archive.org, using the links provided below.

The conformance testing will focus on the listed web pages, comparing their current and archived versions. Your evaluation should identify accessibility issues, assess their severity, and document the changes made between versions. Additionally, you will justify whether these changes have hindered or improved the website's accessibility. Furthermore, your analysis should consider how these changes may impact user retention.

To complete the task, your team must use this template for your report submission. The following requirements must be addressed:

- **Choose the webpage pairings:** Select the pairing you will be analysing (i.e. either Pair 1 or Pair 2).
- **Identify FIVE (5) accessibility issues:** Report each issue using the pre-designed tables included in this template (e.g. Issue 1, Issue 2, etc.).
- **Commercial risk analysis:** Provide a detailed assessment of the potential commercial risks in 500 words.
- **Comparison of the 2024 and 2018 versions:** Critically evaluate the changes between the versions in 800 words.
- **Peer review:** Include a peer review of your team's work.

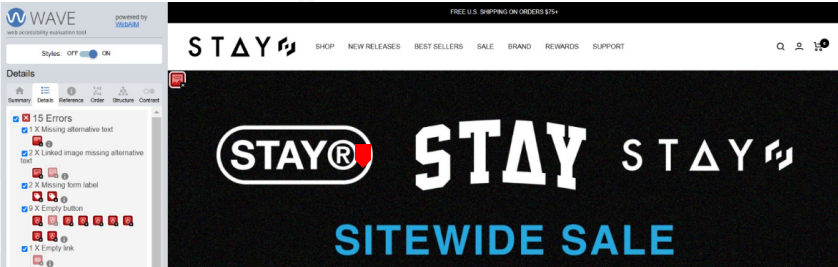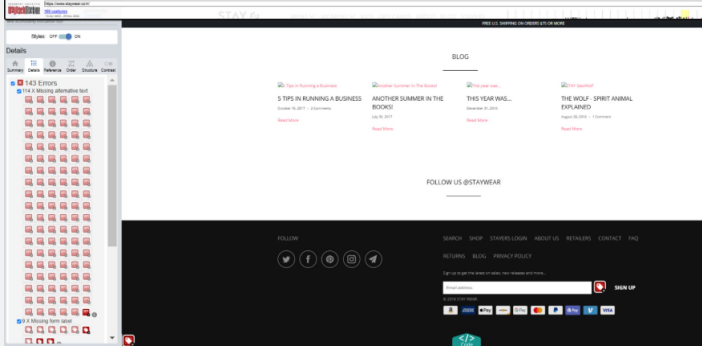Please note that only ONE member of the team is required to submit the completed report.

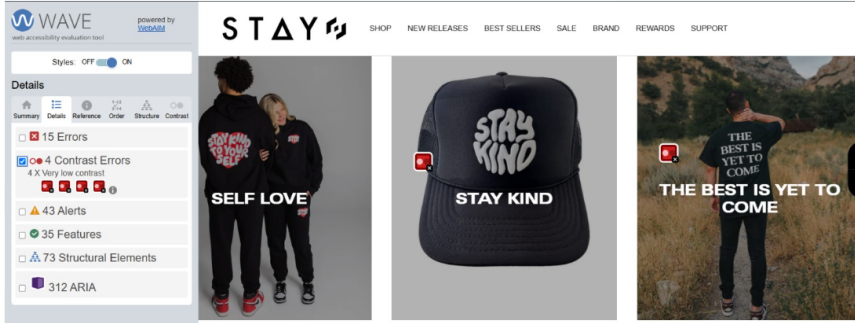You have THREE (3) hours.

Website pairings
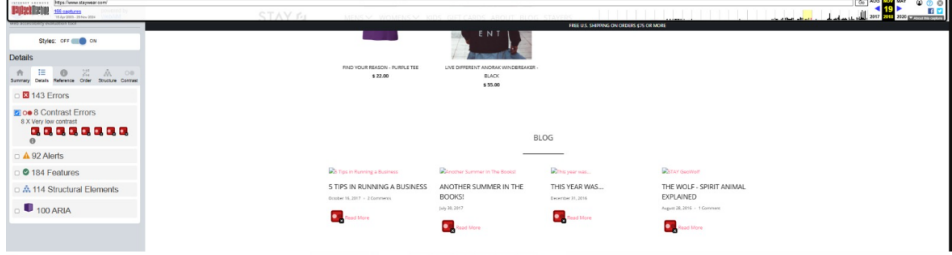
Select ONE pair from the list below.

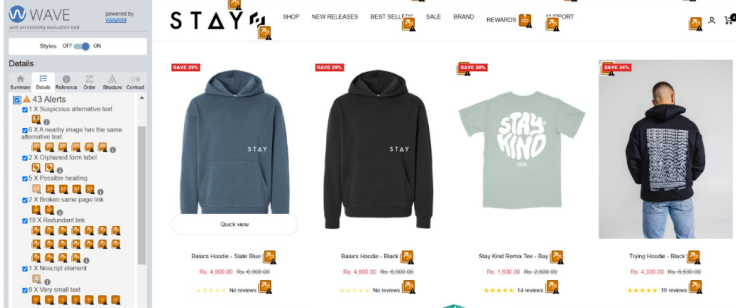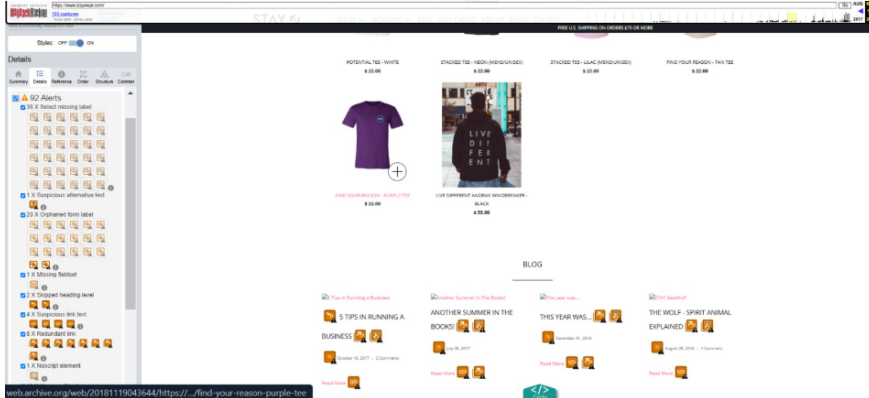| Pair	Category	2024 version	2018 (archived) version
1	News	https://www.c-span.org/	https://web.archive.org/web/20181130224931/https://www.c-span.org/
2	Ecommerce	https://www.staywear.com/	https://web.archive.org/web/20181119043644/https://www.staywear.com/

Issue 1

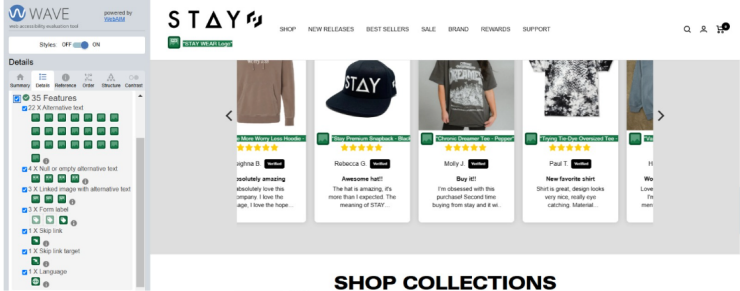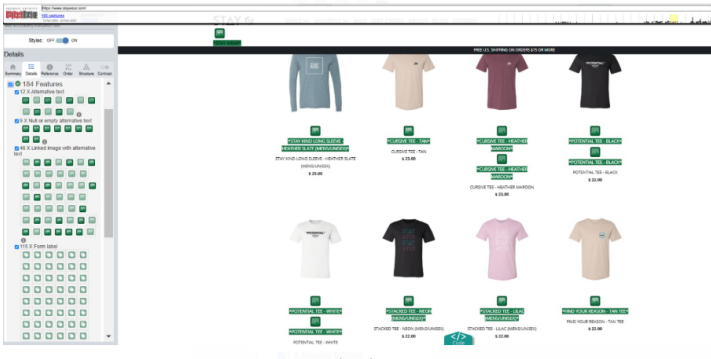|	2024 version	2018 (archived) version
Issue type	Linked image missing alternative, Empty button, Empty link, Linked image missing alternative	Missing form label, Empty button , Empty link
URL tested	https://www.staywear.com/	https://web.archive.org/web/20181119043644/https://www.staywear.com/
Location of issue on page (include screenshots)		
Justification (why is this an issue)	Missing alt text and empty elements hinder screen reader accessibility and user navigation.	Missing alternative text for linked images makes content inaccessible for screen readers. Empty links/buttons confuse users.
Recommended remedy	Add descriptive alt text for images and meaningful labels for buttons and links.	Add descriptive alternative text for linked images. Replace empty links/buttons with meaningful labels or remove them.
Level of conformance it breaches, with brief justification	WCAG 2.1 AA: Perceivable and Operable. Missing alt text and empty elements hinder accessibility for screen reader users.	WCAG 2.1 AA: Perceivable, Operable. These issues hinder accessible navigation and interaction.

Issue 2

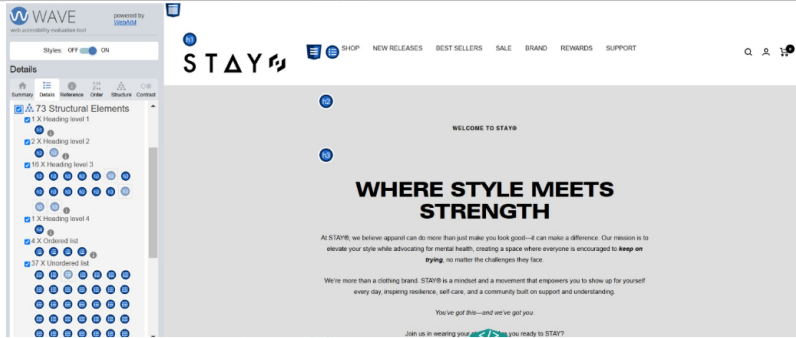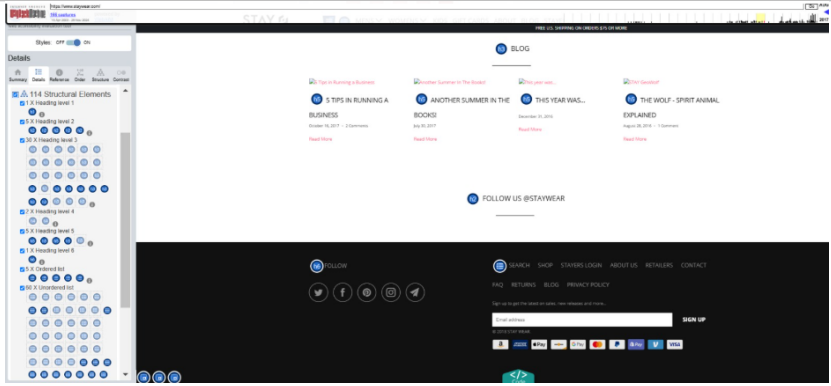| Issue type	Contrast errors	Contrast Errors , Structural Elements
URL tested	https://www.staywear.com/	https://web.archive.org/web/20181119043644/https://www.staywear.com/
Location of issue on page (include screenshots)		
Justification (why is this an issue)	Low contrast reduces readability, making it difficult for visually impaired users to access content.	Low-contrast text in banners and buttons fails to meet WCAG standards, making it difficult for users with visual impairments to read. Poor alignment of structural elements disrupts page navigation and reduces usability.
Recommended remedy	Increase contrast ratios in text and background elements using WCAG-compliant colors.	Increase contrast ratio in banners, buttons, and text-heavy sections to comply with WCAG 2.1 minimum requirements. Realign structural elements to improve content hierarchy and navigation flow.
Level of conformance it breaches, with brief justification	WCAG 2.1 AA: Perceivable. Poor contrast fails to meet accessibility standards for visual content.	WCAG 2.1 AA: Perceivable and Operable. These issues impact both visual accessibility and usability for diverse users.

Issue 3

Issue type	Orphaned from label, Possible heading, Broken same page link, Redundant link, Noscript element , very small text	Missing field set, Skipped heading level, Noscript element, Redundant link, Suspicious link level, Orphaned form label , Suspicious alternative level
URL tested	https://www.staywear.com/	https://web.archive.org/web/20181119043644/https://www.staywear.com/
Location of issue on page (include screenshots)		
Justification (why is this an issue)	Orphaned labels disrupt screen readers. Broken and redundant links confuse users. Small text impairs readability.	Orphaned labels disrupt screen readers. Small text is hard to read. Redundant links waste navigation time.
Recommended remedy	Associate labels with inputs, fix broken links, remove redundancies, and use larger fonts.	Properly associate labels with input fields. Use readable font sizes and optimize navigation to avoid redundancy.
Level of conformance it breaches, with brief justification	WCAG 2.1 AA: Understandable, Operable. Affects navigation and usability.	WCAG 2.1 AA: Understandable, Operable. These issues reduce usability for all users.

Issue 4

Issue type	**Alternative text, Null or empty alternative text , Linked image with alternative text , Form label, Skip link, Skip link target , Language**	**Alternative text, Linked image with alternative text, Form label, Language**
URL tested	https://www.staywear.com/	https://web.archive.org/web/20181119043644/https://www.staywear.com/
Location of issue on page (include screenshots)		
Justification (why is this an issue)	Missing alt text and language attributes hinder screen readers. Incomplete form labels and skip links reduce usability.	Missing alt text prevents screen readers from interpreting images. Missing language attributes affect interpretation by assistive tech.
Recommended remedy	Add alt text for images, include a language attribute, and fix form labels and skip links.	Provide meaningful alt text for all images. Add language attributes in HTML to specify primary language.
Level of conformance it breaches, with brief justification	WCAG 2.1 A: Perceivable, Robust. Limits accessibility for assistive technology users.	WCAG 2.1 A: Robust. Necessary for inclusivity and assistive tech compatibility.

Issue 5

Issue type	Structural elements, Ordered list, unordered list	Structural elements, Ordered list, unordered list, Inline frame, Navigation
URL tested	https://www.staywear.com/	https://web.archive.org/web/20181119043644/https://www.staywear.com/
Location of issue on page (include screenshots)		
Justification (why is this an issue)	Missing lists disrupt content hierarchy, hindering navigation for screen readers.	Missing ordered/unordered lists hinder semantic understanding of page structure. Poorly structured elements confuse users.
Recommended remedy	Add semantic ordered/unordered lists to improve structure and accessibility.	Add ordered/unordered lists to improve semantic HTML structure. Use proper tags for consistent navigation.
Level of conformance it breaches, with brief justification	WCAG 2.1 AA: Understandable. Impairs navigation for assistive technology users.	WCAG 2.1 AA: Understandable. Improves content readability and navigation clarity for users.

Commercial risk (up to 500 words)

Consider the findings from the conformance testing of the 2024 version to identify potential commercial risks. Provide a clear justification for each risk, explaining how it could impact the business.

Commercial risks that Staywear faces due to non-compliance issues on the website of the 2024 version include; The following analysis identifies potential risks and their impact on the business:

1. Loss of Market Accessibility
Risk: The failure to meet the WCAG 2.1 AA makes navigability and interaction difficult particularly for a disabled user or a visually impaired customer using a screen reader. They mentioned the lack of alt text, blank links and buttons, and low contrast as the reasons that disable the site for these people.

Justification: Across the world, 15% of the population is disabled, and companies which do not cater to people with disabilities are leaving out a significant segment of the market. This inaccessibility increases customer objections, leads to low or declining sales for such products, and undermines the organization's proclaimed commitment to customers with disabilities.

Impact: Potential loss of revenue and market share especially from the ethical consumer and groups and organizations who stand for the rights of the disabled.

2. Legal and Compliance Risks
Risk: Failure to follow WCAG 2.1 AA standards is unlawful. In many jurisdictions like the UK and United States accessibility standards are tied to anti-discrimination legislation including the Equality Act 2010 and the Americans with Disabilities Act respectively.

Justification: Organization that are non-compliant may suffer through legal actions in the form of law suits, fines and orders to correct the barriers to access. The legal costs and the amounts paid to settle could far run higher than the cost of addressing the issues at their nascent stage.

Impact: Damage caused by legal actions, fines, and requirements for the change of station's web site. There are also other damaging effects of lawsuits such as reputational losses that seriously Jeopardize customer loyalty.

3. Damage to Brand Reputation
Risk: Lack of access could greatly damage Staywear business since it could trigger unfavorable comparisons by civil organizations or groups online. In today's world of social networks and instant sharing, negative is likely to go viral almost instantly.

Justification: Consumers thus require that managers and their companies responsibly operate with CSR. Lack of compliance with accessibility standards may be considered as neglect or the absence of attention to the target customers, which can cause the change in brand customers' loyalties and reducing the chances to attract new clients.

Impact: Negative long-term effects on the brand and customer loyalty policies, which results in difficulties in the context of the growing role of social responsibility.

4. Reduced Conversion Rates
Risk: Lack of map, faulty linkages, and structural flaws are irritating factors that hamper the users and reduce their tendency to buy.

Justification: The main principle for e-commerce is the easy and convenient orientation and usage of the site or application. Some of the hardships include broken same-page links, irrelevant link, or missing form labels that among other things cause high bounce rates, thus low conversion rates.

Impact: Reduction in corporate income due to lesser customer interaction and positive selling. The site threatens to be overtaken by standard, intuitive solutions that negatively impact conversion.

5. Decreased SEO Performance
Risk: Failure to meet the accessibility standards causes problems to SEO. Search engines take into account the accessibility of sites; they correspond to both, the aspects of usability and such standards as SEO.

Justification: Lack of proper description for images, duplicated links, and improper formation of headings, and links also affect the site rankings and, thus, people's opportunities to find the site appealing.

Impact: Less number of visitors from organic sources impacts the number of potential buyers, and therefore sales revenue is negatively impacted.

Recommendations
For mitigating these risks, Staywear should:

- Perform an assessment to tackle issues of non-adherence to the WCAG 2.1 accessibility standards, which are at the AA level.
- Apply compensating efforts which include providing alt tags, resolving issues with the site's navigation and increasing the contrast of the color ratios.
- Continuing the process, educate staff in the accessibility standards they need to follow in order to abide by the principles in future.

Comparison (up to 800 words)

Compare and critically evaluate the 2024 and 2018 versions of the website, focusing on changes that have either improved or hindered accessibility. Additionally, assess the potential impact of these changes on user retention.

A comparative analysis of Staywear's 2024 and 2018 website versions points to modest enhancements and persistent barriers to web accessibility. Such problems affect the usability and users' loyalty, which show improvement and new stagnation points.

1. Images without Descriptions
2018 Version
Some of the issues identified at the 2018 site Touchpoint include non provision of alternative text for linked icons thus Screen readers cannot interpret them. Lack of these components also caused problems for Visually impaired users and usability of the site was affected.

2024 Version
Even though the best web design technologies are available now in the market, yet still the 2024 version also does not solves this issue. Linked images continue to be only presented with no descriptive alt text, thus perpetuating the experience for those using assistive technologies.

Analysis
The inability to correct missing alt text is therefore a lost chance to improve the accessibility status quo. This issue traps accessibility and hinders the navigation even for those with screen readers or those in private browsing. Continuing with such barriers could demotivate the users, lead to lesser interactions, and negatively affect members' retention. It is therefore evident that fixing this primary disability of access would benefit the web more than merely growing a wider audience; user happiness.

2. Contrast Errors
2018 Version
There were contrast errors in the 2018 version especially in the text of banners and buttons that did not conform to the WCAG standards. This largely made it difficult for the visually impaired users to be able to read the content.

2024 Version
The 2024 version presents comparably minor enhancements in button contrast yet still has the problem of low contrast in texts and banners. These negativities make it harder for those eyes sighted impaired or elderly users to read on their browser.

Analysis
Although, some improvements can be noted for 2024 changing the contrast of the sides by a minor amount, the lack of proper solution for this problem distorts usability. Low contrast provokes negative user experience, especially for the people with decreased visual capabilities, and leads to high bounce rates. It is clear that general improvements to contrast ratios for all sections would make a vast improvement to both comprehension and retention, thus users engagement.

3. Structural and Navigation Issues

2018 Version

The 2018 version had issues of poor content hierarchy, missing heading levels, and some links were redundant or broken. These problems interfered with the path, leaving no opportunity for assistive technologies to understand the site's layout.

2024 Version

The 2024 version shows that sections and subsections are more in line with the respective headings and also the structure is more logical. But issues such as damaged same page links, duplicate navigation bars, and unsupported form labels are still detectable, which are all regarding usability.

Analysis

Some design changes in the new 2024 version are even welcome and will make the overall browsing experience more unified. However, there remains problems like broken links and redundancy that slow down navigation especially to users with disabilities. That is not advisable for navigation difficulties result in user exclusion and these individuals are most unlikely to log in again. The page structure by reducing link clutter, and expanding on skip-link use would greatly enhance the level of satisfaction users attained.

4. Forms and Input Fields

2018 Version

Labels and fieldsets on forms were missing or not grouped correctly in the 2018 version. This was particularly problematic for users which rely on their screen reader while also decreasing the probability of completing the form.

2024 Version

The 2024 version also experience similar problems, which include the problem of orphaned form labels and the additional problem of partially implemented skip links. These issues affects usability and accessibility for e-commerce interaction.

Analysis

On e-commerce sites, the forms are regarded as the major key player to the conversion rates. Accessibility in form means user retention is absent, directly affecting users who experience since the transaction process is challenging. The labels of form fields and the logical flow of form would decrease the forms' abandonment and increase the user retention.

5. Semantic and Markup Language Features

2018 Version

The 2018 website had no language attributes in html layout and this posed some of challenges to the screen readers while interpreting content. Lack of unordered and ordered lists hurt accessibility even more due to problematic semantic markup.

2024 Version

The 2024 iteration adds a few additional enhancements in regards to semantic structure by the inclusion of bullet point and numbered list elements. However, as it can be noted language attributes are absent which decreases the compatibility with assistive technologies.

Analysis

Semantically, developments in the means of logical structural and organisational aspects are enhanced at the 2024 site and made comprehensible for both the users and search engines. However, the language attributes are still missing, which complicates perception for speakers with different language identification and use of screen readers. Solving this problem would enhance retention as it would eliminate exclusion and exhibit better user interface.

6. Noscript Elements & Inline Frames

2018 Version
The 2018 version has issues with improperly implemented noscript elements and with descriptions of inline frames that can make it difficult for users with JavaScript disabled browsers and or assistive technologies to access the content seen.

2024 Version
The 2024 version is slightly better with inline frame descriptions but the noscript remains buggy.

Analysis
While there have been improvements in inline frames, noscript issues remain unresolved which remains unpleasant for some users. Some of these includes; Modernizing these elements to fit an accessibility standard would widen the window of accessibility of this site hence increasing retention.

User Retention: Impact of Changes
The 2024 Staywear website has a slightly enhanced retention rate with better structure and some increase in contrast which helps with navigation, and visibility of the buttons. However, basic problems, which modern users should not face, such as missing alt text, low contrast, and broken links, remain familiar concerns that lead to disappointment and, ultimately, to abandoning the website. Failure to implement some of these methods, including automated alt text generation, is also pointed out as areas of inadequacy. Limited form usability and problematic navigation are other barriers to e-commerce conversions that make users avoid previous visits. Overcoming these recurring challenges is vital to the improvement of accessibility, increased user satisfaction, as well as increased retention and activity in the saturated Web 2.0 environment.

Peer review

Please list all team member details, and what their main role and responsibilities were.

Student ID	Student Name	Role and responsibilities
23068183	SAI PRAKASH NADENDLA	**Lead Researcher**: Conducted comprehensive research, synthesized findings, and provided context for decision-making.
23116864	JEEVAN BODA	**Writer and Editor**: Drafted and revised content, ensured alignment with project objectives, and maintained quality standards.
23070880	RAVI CHANDRA REDDY CHITTI	**Accessibility Specialist**: Focused on compliance with accessibility standards, conducted testing, and suggested improvements.
23035710	VISWESWAR REDDY KOVVURU	**Documentation Specialist**: Managed project documentation, ensured completeness, and maintained records for reporting.
23035322	JHON PAUL CHRISTOPHER YESUDIAN	**Critical Reviewer**: Reviewed project work for accuracy, identified gaps, and provided constructive feedback.
23081027	YUGENDRAN MURUGAN	**Data Visualizer**: Created charts, graphs, and other visuals to support data-driven insights and enhance presentations.
23081605	RITHIK REDDY KATPALLY	**Project Coordinator**: Managed timelines, delegated tasks, and ensured smooth collaboration among team members.
23089487	MANI BHUPAL REDDY TANGUTURI	**UI/UX Designer**: Designed user-friendly layouts, optimized user experience, and ensured visual appeal.