**Project:** Comprehensive Website Optimization and Analysis Platform

**Team Members:** Ankita, Vidya and Animesh

—**Survey—**

**From the survey, these five key domains emerged as top priorities among users:**

1. Better user experience.
2. Website should visibly look good. (Better UI basically)
3. It should be secure.
4. Visible to the users on search engines (SEO).
5. Proper advertisement

**Highlighted insights emerged from in-depth discussions within above five major domains:**

* Color choices should be related to content
* Payment security, SSL and HTTPS certified for security purposes.

Can check payment getaways used for transaction

* Format suggestion for images to compress and increase the reloading speed.   
  For Example webp and png instead of jpg
* User interface improvement react and templates.
* Bootstrap model user friendly.
* Ranking improvement through domain name, shorten url and title and headings.
* Content biased or not, content quality
* Advertisement suggestion based on the content of the website.
* Advertisement position where the high chance of getting cpc.
* Mobile friendly: important for ranking and UX.
* Website cards/slides adaptive layout and fairly visible or not.
* Arrangement of elements: all the required html elements are at their specific position or not
* Consistency across pages: space and content are well aligned or not.
* Typography, Font Styles: effective and catchy
* Icons, Menus: Balanced or not
* How to use high-quality images/videos instead of losing reloading speed
* User authentication and authorization systems to check the proper security for the website that particular trusted people are using the website.
* JS/CSS Size: For better reloading speed
* Robots.txt: To help the crawler and secure the confidential content from the crawlers
* XML Sitemaps: To help crawlers for better ranking.
* Type of website to check the competition
* Socially Active/Buttons: for better user experience
* Contact details: To build trust in users and better for security purposes
* Privacy policy/Transparency: For better user experience and security, mostly mentioned in forms when users put their data.

**Classified View:**

USER INTERFACE:

* Color Grading
  + **Color schemes**
  + **Combination Mapping**

### **Colormind: Color Palette Generator**

* + [7 Rules For Choosing A Website Color Scheme | Elementor](https://elementor.com/blog/website-color-schemes/#)
    - Useful to show our theory is impactful for users.
  + [Testing Web Design Color Contrast | Articles | web.dev](https://web.dev/articles/testing-web-design-color-contrast)
    - Article for color improvements in websites
  + [6 Tips to Choose a Stunning Website Color Scheme (wordstream.com)](https://www.wordstream.com/blog/website-color-scheme)
    - For contrast and combination.
  + [How to Choose Website Color Combination (eiosys.com)](https://www.eiosys.com/blog/website-color-combination/)
  + [56 Website Color Schemes (With Examples) (websitesetup.org)](https://websitesetup.org/website-color-schemes/)
    - Situational color schemes. (May be useful for designing algorithm)
* Content Style
  + **Consistency across pages**
  + **Typography, Font Styles**

### **Fontjoy: Font Pairing Generator**

* + [Classifying Typography Styles: Definitive Guide - 2024 (inkbotdesign.com)](https://inkbotdesign.com/typography-styles/)
    - Importance of typography
  + [Font Psychology: New research & practical insights - Cognition Today](https://cognitiontoday.com/font-psychology-research-and-application/)
    - Different typography research insights.
  + [Design Consistency Guide with 9 Best Practices (uxpin.com)](https://www.uxpin.com/studio/blog/guide-design-consistency-best-practices-ui-ux-designers/)
    - About design consistency. Can be included if possible to write the algo.
  + [The Role Of Typography In Web Design: An In-Depth Guide - Clio Websites](https://cliowebsites.com/the-role-of-typography-in-web-design/)
    - Different typography types and their roles.
  + [Principles of Typography in UI Design | by Bryson M. | Medium | UX Planet](https://uxplanet.org/principles-of-typography-in-ui-design-bc28f1f9666d)
    - Rules for proper and consistent typography and content.
  + [Consistency and standards in UX/UI design: The key to success | by Akansha Tandon | Bootcamp (uxdesign.cc)](https://bootcamp.uxdesign.cc/consistency-and-standards-in-ux-ui-design-the-key-to-success-8392d5d56336)
    - Role and significance of consistency in web pages.
* Elements Layout:
  + **Arrangement of elements**
  + **Icons, Menus**
  + **High-quality images**
  + **User interface improvement react and templates.**
  + **Bootstrap model user friendly.**
  + **Website cards/slides.**
  + [Web Layout Best Practices – 12 Timeless UI Patterns | Toptal®](https://www.toptal.com/designers/ui/web-layout-best-practices)
    - Different layout style available
  + [The fundamentals of website layout - 99designs](https://99designs.com/blog/web-digital/website-layout-fundamentals/)
    - Goal, effectiveness and different types of layouts and how to implement them.
  + [Breaking Down Web Design: A Beginner's Guide to Website Layouts (commoninja.com)](https://www.commoninja.com/blog/guide-to-website-layouts#Understanding-the-Basics-of-Website-Layouts)
    - Importance of layout and how to apply?

USER EXPERIENCE:

* Web Page Performance
  + **Format suggestion for images to compress and increase the reloading speed.**
  + **Mobile friendly/ Responsive Page**
  + **JS/CSS Size - Page Reloading**
  + [The "why" of web performance - Learn web development | MDN (mozilla.org)](https://developer.mozilla.org/en-US/docs/Learn/Performance/why_web_performance)
    - It covers loading speed, rendering, and user experience. Slow sites lead to abandonment, while good performance goes unnoticed by users.
  + [Optimizing Website Performance: Best Practices | Website Designers](https://websitedesigners.com/blog/optimizing-website-performance-best-practices-for-faster-loading-times/)
    - This shows fast loading times and mobile optimization are essential for user satisfaction and engagement.
  + [MergedFile (diva-portal.org)](https://kth.diva-portal.org/smash/get/diva2:1228341/FULLTEXT01.pdf)
    - Explores techniques like caching, fewer HTTP requests, and Web Workers, emphasizing their effect on user satisfaction.
  + [IJRTI (ijcrt.org)](https://ijcrt.org/papers/IJCRT2106225.pdf)
    - FACTORS AFFECTING BROWSER PERFORMANCE FOR WEBSITES
* Web Page Quality
  + Content biased or not, content quality - Web page Quality
  + Analysis based on content components available on the website.
  + [An introduction to content – Digital.gov](https://digital.gov/resources/an-introduction-to-content/)
    - Why content quality is imp
  + [JD-11-2022-0246\_proof 95..114 (emerald.com)](https://www.emerald.com/insight/content/doi/10.1108/JD-11-2022-0246/full/pdf?title=website-quality-evaluation-a-model-for-developing-comprehensive-assessment-instruments-based-on-key-quality-factors)
    - This research paper proposes a multipurpose model for evaluating website quality. It identifies 13 dimensions and over 120 general parameters to assess factors like usability, content, and user experience.
  + [Why Your Website's First Impression Matters: The Importance of Homepage Design - DMA (digitalmarketingagency.com)](https://www.digitalmarketingagency.com/blog/why-your-websites-first-impression-matters-the-importance-of-homepage-design/)
    - First impressions matter, and quality content plays a significant role.
* User Interaction
  + Socially Active/Buttons
  + Contact details
  + Privacy policy/Transparency (Data and Forms)
  + [Measuring user interactions with websites: A comparison of two industry standard analytics approaches using data of 86 websites | PLOS ONE](https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0268212)
    - This research compares Google Analytics and SimilarWeb metrics for 86 websites. It highlights the significance of total visits, unique visitors, bounce rates, and session duration in understanding user engagement.
  + [User Interface Design and UX Design: 80+ Important Research Papers Covering Peer-Reviewed and Informal Studies - MauroNewMedia](https://www.mauronewmedia.com/blog/important-peer-reviewed-and-informally-published-recent-research-on-user-interface-design-and-user-experience-ux-design/)
    - 80+ research paper on ui/ux.
  + [User Interaction Analysis through Contrasting Websites Experience (arxiv.org)](https://arxiv.org/pdf/2201.03638)
    - USER INTERACTION ANALYSIS THROUGH CONTRASTING WEBSITES EXPERIENCE.

SECURITY:

* Security and policy
  + Payment security
  + HTTPS/SSL Certificate for secure browsing
  + User authentication and authorization systems
  + Contact details
  + Privacy policy/Transparency (Data and Forms)
  + [Website Security: How to Secure Your Website | Sucuri](https://sucuri.net/guides/website-security/)
    - Why imp and factors?
  + [The Importance of Website Policies: A Comprehensive Guide - Convesio Knowledge Base](https://convesio.com/knowledgebase/article/the-importance-of-website-policies-a-comprehensive-guide/)
    - Why Website Policies are Crucial
  + [Securing Your Digital Presence: The Crucial Role of Website Security — SelfTyche](https://www.selftyche.com/blog/understanding-the-importance-of-website-security)
    - Explore the reasons why website security matters.
  + [Website Security Tips and Tools You Need Now - SSL Dragon](https://www.ssldragon.com/blog/website-security/#tips)
    - Learn about foundational website security.
* Threats Mitigation
  + Error Pages
  + Phishing/Scams
  + Malware/Virus/threats
  + [Tackling Threats: A Study of Vulnerability Testing and Mitigation in Web Applications by Muhammed Ismaeel Shaikh, Prashant S. Lokhande :: SSRN](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4823623)b

SEO

* Website Ranking
  + Using Model (Will depend on model)
  + Google Search Engine API
  + [SEO Ranking: Factors & Tips to Improve Your Positions (semrush.com)](https://www.semrush.com/blog/seo-ranking/)
    - Better Rankings More Visitors
* SEO Grading
  + Ranking improvement through domain name, shorten url and title and headings.
  + Robots.txt
  + Page Reloading
  + Mobile friendly/ Responsive Page
  + XML Sitemaps
  + [What is Robots.Txt File | Importance, Role, and Impact on SEO - GeeksforGeeks](https://www.geeksforgeeks.org/role-of-robots-txt-file-in-seo/)
  + [Domain SEO Explained: Choosing an SEO-Friendly Domain Name (2024) - Shopify](https://www.shopify.com/blog/domain-seo#2)
    - Domain name matters for SEO
  + [The Importance of URL Shortener SEO (goo.by)](https://goo.by/blog/boosting-your-websites-seo-with-an-url-shortener)
    - Effect of URL on SEO
  + [why are titles and headers important for seo? - Li Creative (licreativetechnologies.com)](https://licreativetechnologies.com/seo/why-are-titles-and-headers-important-for-seo/)
  + [How Page Loading Time Impacts Your SEO: What You Need to Know - On-Page](https://blog.on-page.ai/how-page-loading-time-affects-seo/)
* Competitor Analysis
  + Type of website to check the competition
  + Comparison with good websites
  + [Why Competitor Analysis Matters - Shergroup](https://shergroup.com/post/why-competitor-analysis-is-important-and-how-you-should-perform-it/)
* Keyword Tracking
  + Location and device wise performance of particular keyword or related keyword in a specific time interval.
* Trend Analysis
  + Check which factor is contributing more for ranking

WEBSITE ADS/MARKETING

* Ad Recommendation
* Ad Position (On website to get more CPC)
* Website Marketing

Design:  
1. Login/signup

2. Home:

3. Analyze Website:

4. Report

5. User

6 Learn about the parameters.