

Re-Imagining Website Navigation System for User Portfolio Management

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Abstract— An organised and transparent navigation system acts as a map to direct visitors to various pages and information on the site. It is fundamental in encouraging visitors to stay, peruse the content and have a positive user experience, which subsequently leads to more sales and brand loyalty for the business.

An aesthetic navigation makes the website look more attractive and effective. Navigation has an immense impact on how a website is viewed by users or visitors. Design of web navigation has a greater impact on success of website. It almost certainly has an impact on traffic, SEO ranking, user experience, conversions, sales, and so forth. Hence, a good navigation is very useful to boost website design. A well-organized navigation bar will provide the user with the instant knowledge of the website. The user is more likely to explore the site if the navigation is easy and intuitive.

Keywords— *User experience, User Interface, Portfolio Management, Website Navigation*

I. INTRODUCTION

The web browser is extensively used for information seeking on the Internet today. The huge information space on the web can sometimes cause a user to feel entangled when loaded with massive amount of information all at once. This can further lead to confusion among users, especially when not assisted properly. Users report frustration when they can't locate some information or if they are not familiar with the web design. This is where an efficient navigation plays an important role. A good navigation system improves the quality of information seeking. [6]

Structure of website navigation is very important as it has a greater impact on sales, user experience and SEO (Search Engine Optimization) rankings. It not only includes sketching pages but also includes greater level of abstraction. It is not at all easy to design and organize a website.

Portfolio management is a critical issue which should be skilled by position sizing and resource allocation. Traditional and generic portfolio strategies require a navbar as a model input, which is not a trivial task in the real-world applications. The most used navigation system is a navigation bar which either has a fixed position on a screen or disappears when a user scrolls away. A navigation bar takes up a large space, having a pre-set importance in every layout including frameworks. The concern reflecting as a restriction for a major percentage of the users. [12]

To solve the above limitations and provide a better solution for the portfolio management to the developers, we then develop a "NavDot". This enhanced navigation feature ensures a maximized screen usability without taking up a huge space.

II. LITERATURE REVIEW

A. Automation

An automation [17], is a replacement of manual operations with computer procedures and other machinery. An automation is required to increase productivity, reduce production time, increase manufacturing flexibility, reduce costs, eliminate human error, reduce labor shortage, high degree of accuracy, performing tasks that are beyond human capabilities of size, weight, speed, endurance, etc.

A Library Automation System implemented in University of Toronto Library in 1963-1972[17] and University of Illinois at Urbana-Champaign 1965-2000[18], Automated System for Educational Assessment developed in Nigeria, e-Learning System [19], Automated Project Grading and Instant Feedback System [20] are the well known examples of Automated Systems those have achieved automation in their manual processes and enhance their overall performance. An automation is achieved by converting paper based system into paperless system [21]. The popular models used in paperless systems are Single Copy model and Form oriented Model [21].

B. UI of a Website

A user interface (UI) is the interaction between a system and a user via commands or procedures to run the system, input data, and use the contents [23]. User interfaces can be found in systems such as computers, mobile devices, games, and so on, as well as application programs and content utilization. UI is an interface where the user interacts with the computer application effectively [15].

C. UX of a Website

From a non-expert perspective, the goal of this paper is to investigate how user experience (UX) effects user pleasure when engaging with digital culture heritage online collections. UX is a study on the all aspects that comprehend user's interaction with an interface or a system, which include the influence of usability, usefulness and emotional impact during interaction and savoring the memory after interaction. Users' contentment and discontent are triggered by UX aspects, according to the findings. User satisfaction is

subjective and dependent on user’s needs, expectations and existing experiences [14]. UX is an HCI-related concept that is widely applied not only in software and hardware development, but also in services, products, processes, society and culture [15].

D. Website Navigation

It was recognized that the style of a navigation menu played an important role in an information system, especially in the case with huge amount of information distributed in the same level of a hierarchy. A good navigation style can definitely help user find information easily. To propose a solution for the circumstance where a large number of menu items should appear on the same level. [2]

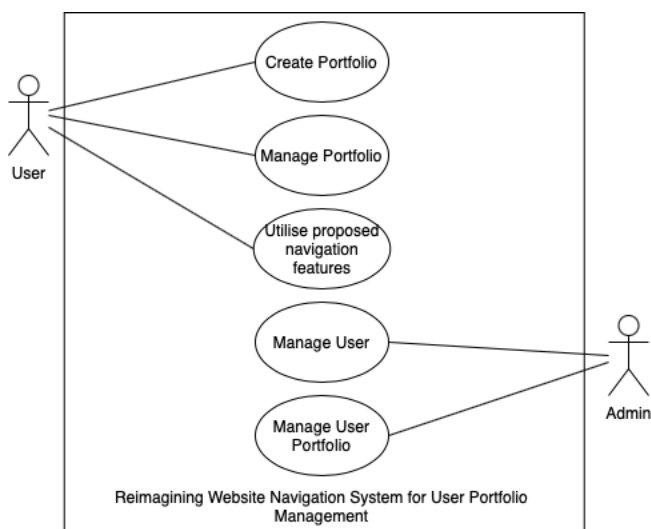
E. E-Portfolio

An eminent benefit of portfolio management is the consistent collection of project requests in a central information repository. Comparability can be achieved by adopting a common request form for all project kinds and following a standardized acceptance and review process. [22]

Through periodic reflections, e-portfolios give extensive possibilities for metacognition, which may help students achieve a variety of goals and skills. Reflection on work saved in e-portfolios can help learners develop personal and academic identities as they finish complicated projects and reflect on their talents and development. It also helps students integrate learning across courses and time, which facilitates integration. E-portfolios are a valuable resource for both students and instructors to track the progress of essential goals throughout time. E-portfolios are a valuable resource for both students and instructors to track the progress of essential goals throughout time. [16]

III. PROPOSED WORK

The work flow of the system goes as follows:



The proposed system is described as:

- A. *Front-end Design*
- B. *Enhancing UI UX of Website Navigation Features*
- C. *Back-end Module for User Portfolio Management*

Here is the brief description about each of them.

A. Front-end Design

The design of any front-end is based on how would a user interact with the website giving them an easy and attractive user experience. It is important to keep a user on the hook by its uniqueness and still not to overlook the concepts a user would be used to. An e-portfolio could be successfully developed with the help of HTML (Hypertext Markup Language), CSS (Cascading Stylesheet) and JS (JavaScript) considering various aspects like design, work experience, about and the navigation throughout the website.

Let’s have a deeper look:

Design: An excellent User Interface will create an instant attraction to your website while a well thought out User Experience will put a lasting impact on your users’ mind. It is therefore vital to get both of them right to build a relationship with a user. Consistent choice of colors, graphics and branding would help users associate with the developer.

Website Navigation: A well planned and transparent navigation system acts as a road map to direct visitors to various pages and information on your site. It is critical for enticing people to remain, read your information, and have a pleasant user experience. A simple and minimal navigation through the website would appeal to the user. The most abundant navigation technique is a navigation bar.

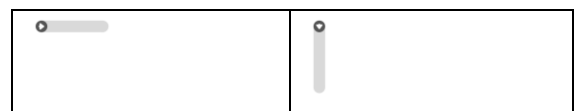
This work proposes a more efficient technique to implement enhancements to portfolio websites while focusing on website navigation. The enhancement is generated by selecting an element of most importance- the “navbar” and proposing a different and more optimum navigation system to save space, improving usability and enhancing the user experience.

B. Enhancing UI UX of Website Navigation Features

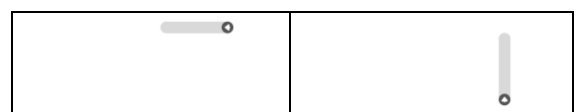
This procedure begins with a fixed dot approach replacing the fixed “navbar” approach. The developer or the designer are greeted with some options to place a navigation dot. A navigation dot is a small circle enclosing an arrow icon representing an expansion in that particular direction.

The eight options:

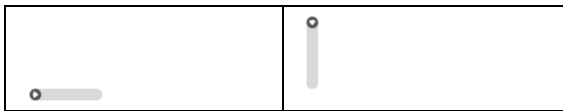
- 1. *Top Left*



- 2. *Top Right*



3. Bottom Left



4. Bottom Right



Post a suitable selection, the navigation dot is programmed at the location with an additional hover feature. The same is implemented with a simple drop-down menu code provided in HTML5. The navigation dot would expand revealing the navigation options in form of icons or short terms.

C. Back-end Module for User Portfolio Management

The back-end module would be developed with a database management system using MySQL storing work data and contact information about one. The same would be dynamically applied to the website and creating e-portfolios along with all the enhancement features to apply design thinking in the most efficient manner.

The main purpose of an e-portfolio is to create an impact on a recruiter, which requires the process of design thinking and a smooth user experience. This technique re-imagines the importance of the same.

IV. IMPLEMENTATION AND ANALYSIS

With this implementation we are able to implement following features in our proposed system. The features are:

- **More space:** By abandoning the standard navigation bar a designer would be greeted with a good amount of space to welcome more content. This would allow a greater canvas of creativity without restrictions for the website header. The need of reserving space in every layout for every website would be considered history.
- **Minimal:** The navigation dot is a circle housing an arrow which could be placed at any of the four corners of a website as per the requirement of the user.
- **Aesthetic:** The overall target for a UX Designer is to achieve an aesthetic look and feel to a website. This approach takes a huge leap towards the same with respect to website navigation. A simple hover of a cursor expands to dot revealing the menu options for the visitor.
- **Ability to implement shortcuts:** The navigation dot has an additional feature, along with a hover option it could also act as a button for the visitor to either take them back to the top of the website or as any other link in the imagination of the developer.
- **Ability to choose from multiple layouts:** The traditional navigation bar sticks with the same layout in every framework, restricting front-end

developers. Navigation dot allows them to choose from various layout option that best suit their purpose.

V. RESULTS AND DISCUSSION

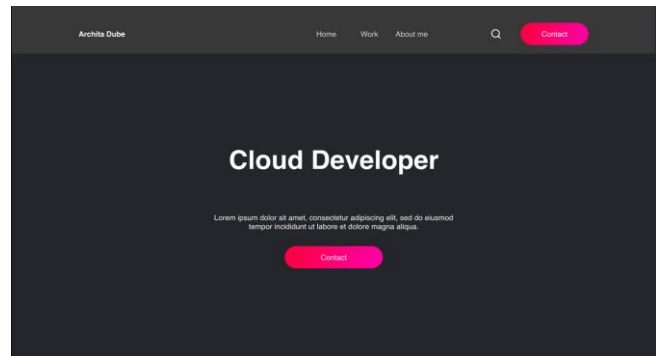


Fig. 1. Regular Navigation Bar on e-portfolio

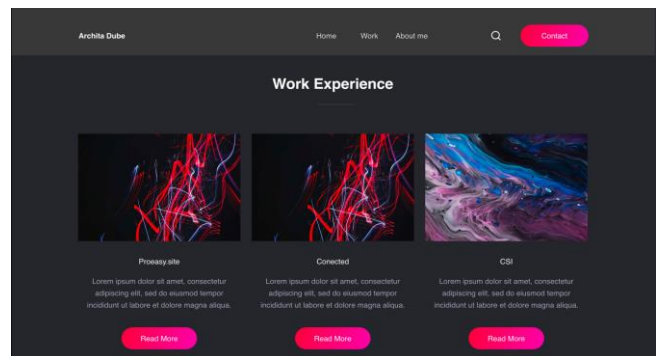


Fig. 2. Fixed Navigation bar on e-portfolio

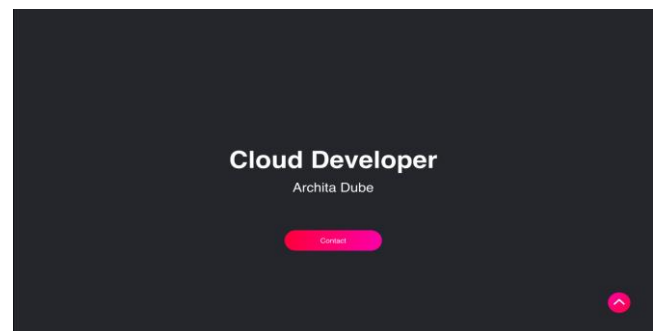


Fig. 3. Proposed Navigation Dot

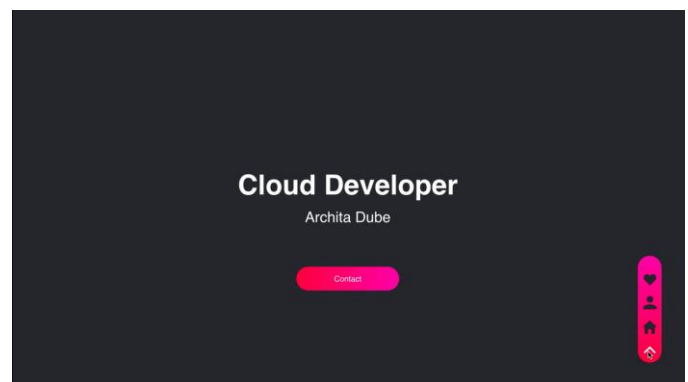


Fig.4. Expansion of Navigation Dot at hover

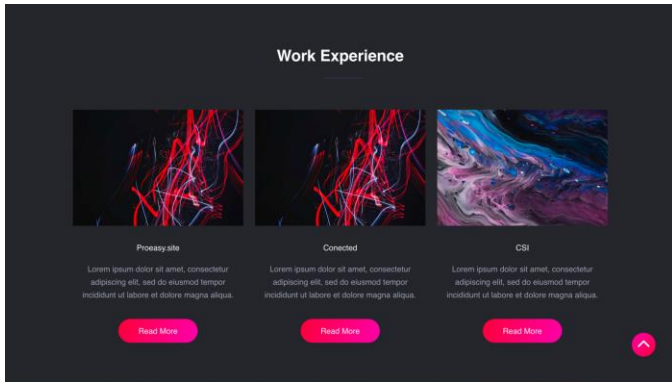


Fig. 5 Representation of saved space

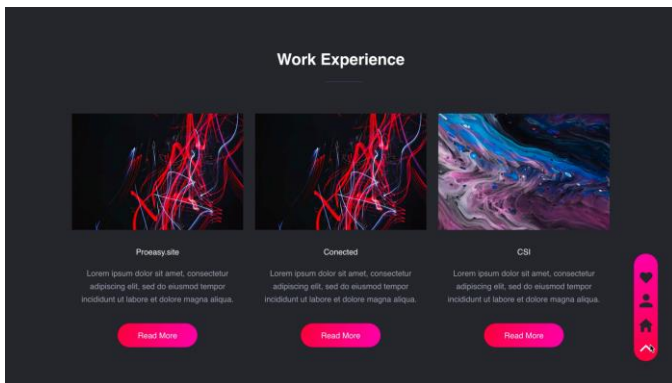


Fig. 6. Expansion of Navigation Dot

With the above implementation, the comparison between existing system and proposed system can be given as:

Parameters	Existing System	Proposed System
Animated Expansion	Absent	Present
Additional Role	Absent	Present
Shortcut link implementation	Absent	Present
Minimal	Absent	Present
Multiple Layouts	Absent	Present
Fixed position at the top	Present	Absent
Taking up huge amount of space	Present	Absent

Thus, with this implementation we are not just proposing an e-portfolio management but we are also reimagining the website navigation system.

VI. CONCLUSION

Not only the proposed system is web based technical solution to create e-portfolio with the advancement in navigation features that attracts a visitor.

FUTURE SCOPE

The proposed work can be enhanced by adding more navigation and security features.

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