



Transforming web: Switching desktop to mobile

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Abstract

The rate of using mobiles rapidly increases in the whole world. Websites are the heart and soul of the internet. The contents of these websites are accessed by the computers and mobiles. Now desktop computer/ laptops replaced by the latest mobile phones because they have all the necessary features of a computer carried by a small pocket device. With this transformation there are some issues for web developers that the compatibility of contents of a web site. Websites which used to be viewed on desktops are now being viewed on smartphones. So websites are created by the developers should be compatible for mobile platform also. The aim of this paper is to discuss some migration facts, new technologies, maintaining a single codebase for all devices used for making the websites responsive.

Keywords: mobile web and desktop web, responsive web design

Introduction

Today everyone lives in the modern digital era and most of the people busy on their smartphones/ tablets to access the web contents to perform different kind of activities. It has been the basic need of the every people for life. In other words we can also say smartphone is a SSC (Small Smart Computer). Every company has their website for disseminating information about the product, attracts the people giving offers and many more like obtaining any information about the product, make transactions online, product shopping, sell/buy products etc. The online shopping graph growing day by day because people think there is no need to go to the market in traffic, no bargaining, not spend more time to purchase the things. Each & everything is available on small computers. So users make transaction online, make order and paid online. For these kinds of activities mostly people uses Mobile Apps. Smartphones are now responsible for a third of internet access, up from 23% in 2014. Two-thirds of adults now have a smartphone, up from 39% in 2012, and the amount of time we spend using them to go online has risen to one hour and 54 minutes per day.

Jane Rumble, director of market intelligence at Ofcom, said the change in internet access was a "landmark shift". She said: "You can see these devices are becoming more and more an important vital hub of information and communication throughout the day, with smartphone owners spending almost two hours (on them) each day, almost double the amount of time that those people are spending on their laptop or desktop. She said younger age groups were driving the change. "Those aged 16 to 24 are much more likely, as well as 25 to 34, to say their smartphone is the most important device to get online, whereas for the older age groups, they are much more likely to be sticking with their laptop. This is a landmark shift."

The addiction of smartphone users is 4G and it allows video content and streaming services to be watched on the handsets, which older, slower connections could not handle without

irritating buffering, and that leads to a big difference in how people use their smartphones: almost two-thirds (62%) of 4G phone owners told Ofcom they "couldn't live without" their phone, compared to 52% of all smartphone users ^[1]. The number of mobile phone users in the world is expected to pass the five billion mark by 2019. For 2017, the number of smartphone users in India is estimated to reach 299.24 million, with the number of smartphone users worldwide forecast to exceed 2.3 billion users by that time. The number of smartphone users worldwide is projected to amount to nearly 2.7 billion by 2019.

Literature Survey

The people of India have a great affection for mobile phones. The impact of mobile access technologies is not only felt by the business world, but also understood by the higher education sector. Every year, the Horizon Report seeks to identify and describe emerging technologies that are likely to have a large impact on teaching, learning, or creative expression in higher education settings over the coming five years. "Mobiles" has been identified as one of the top "Key Trends" since 2006, for a total of at least 6 years. It was also ranked second, first, and first most important "Technologies to Watch" in 2011, 2010, and 2009 respectively. "The story of mobiles is no longer solely about the devices we carry. Mobiles are doorways to the content and social tapestries of the network, and they open with just a touch" (The New Media Consortium, 2011) ^[2].

These charts present the share of mobile phone website traffic worldwide. 52.2 percent of all website traffic worldwide was generated through mobile phones in 2018, 50.3 percent in the previous year. As of February 2017, mobile accounts for 65.1 percent of all web traffic in Asia and for 59.5 percent of all web traffic in Africa. Due to the strong growth of the Smartphone in the market in recent years, this is no surprise, especially as mobile internet often provides a more viable

online connection in regions that lack the infrastructure and money for traditional and more expensive landline home

connections.

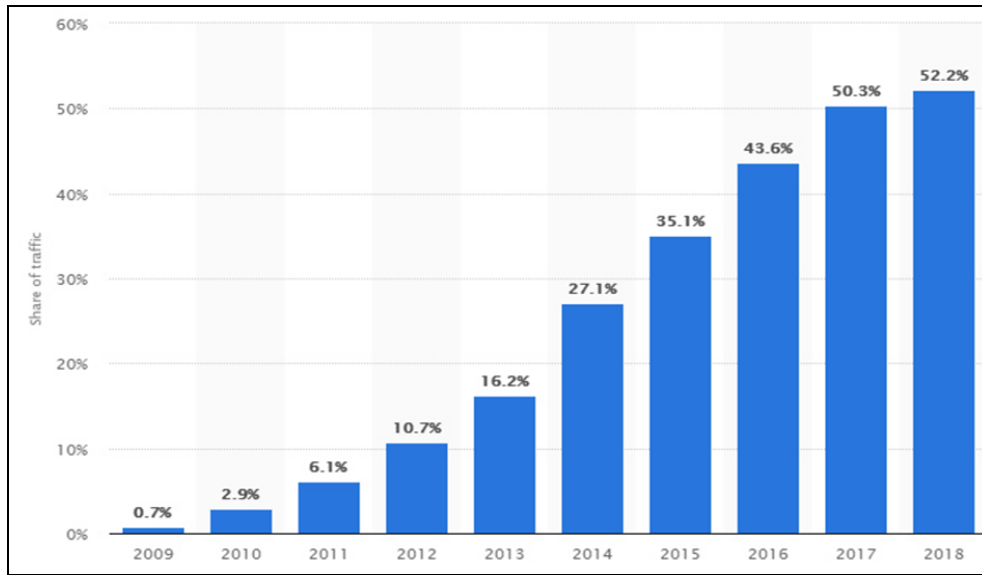


Fig 1

Percentage of all global web pages served to mobile phones from 2009 to 2018.

This statistic gives information on the mobile internet penetration in India from 2015 to 2022. In 2017, 23.93 percent

of the population accessed the internet from their mobile phone. This figure is expected to grow to 34.85 percent in 2022.

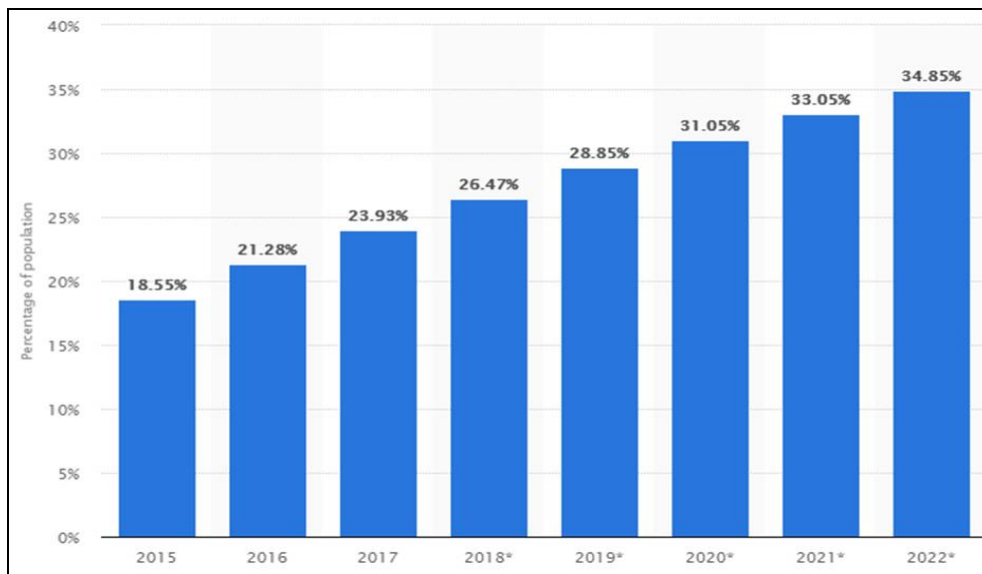


Fig 2

Mobile phone internet user penetration in India from 2015 to 2022 [3].

Both these charts display mobile phone internet users worldwide from 2009 to 2018 in coming 4 years data than desktop computers. Today everyone did his/ her computerized work online by their Smartphone using different kinds of apps or websites.

Mobile Web Application

A website is accessed on desktop/ laptop, is also viewed on

mobiles. Today websites are created by the developers these are compatible with smartphones with some extent. It is very easy for people to access the web contents on their smartphones when they are lying on bed, while travelling in bus, train or aero plan. Creating a website for mobiles many things keep in mind application requirements, target mobile platforms, development options, application distribution strategy etc.

Traditional desktop and laptop PCs are Windows-based with a standard screen size, features and form factor. The mobile

landscape is much more fragmented, with four main platforms (Android, iOS, Windows Phone and BlackBerry) that are continually evolving. Accordingly, building mobile applications requires more factors to consider when planning, including which device platform to build first, what mobile technology option to choose, what capabilities should the mobile phone support, and the need for a long-term roadmap with deployment on additional, next platforms. In contrast to traditional Windows-based desktop development, mobile developers need to think about creating application code for multiple platforms-Android, Windows Phone, iPhone and BlackBerry. Designing an application that is optimized for various devices with different screen densities and screen sizes is even more challenging ^[4]. These applications are developed using web technologies like HTML, JS, and CSS and are designed to run on mobile browsers.

Responsive Web Design

When any web content is accessed it will be not appear as good on smartphone as on desktop computer because of their different screen widths and screen resolutions. Today everyone use at least one mobile. People prefer viewing contents on mobile rather than desktop. But when these web contents accessed on mobiles, user makes more attempts to access it by scrolling the whole page again & again and zooming the contents. New mobiles launched everyday with different specifications. Here arises an issue of compatibility of platforms. Solution is here; make a website responsive for each mobile and desktop computer irrespective of the device.

The goal of responsive web design is to make a web page look equally good regardless of the screen size of a device. It will be very good approach in future to design websites in such a way the users viewing any website with minimum scrolling and zooming to seek desired contents over internet across wide variety of portable devices. The purpose of RWD is to provide the user an easy access to various kinds of websites and applications without much of trouble. Responsive website creation requires using a proportion-based grid, flexible images and CSS3 media queries. The proportion-based grid is often called Fluid grid ^[5]. It is a process in which a single layout is built and the responsiveness will be achieved with that single layout using the best practices such as usage of CSS3 media queries @media rule, usage of percentages to create flexible foundation with the grids.

Conclusion

From the above discussion it has been clear it is the era of smartphone users. In the upcoming days Smartphones/ Tablets and other hand held devices will be launched in the market with different screen dimensions and resolutions. Responsive web design will be very beneficial for these kinds of portable devices as compared to mobile web apps. It will be the advanced approach in the field of web technology. Web developers will design the web layouts using RWD technology which will be best proven and remove incompatibility issues of various screen resolutions. Responsive web design will be a great vision in the future, while websites will be created through RWD and people will have less difficulty accessing web content on the Internet.

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