2.2 The effect of responsive web design on the user experience with laptop and smartphone devices:

Azham Hussain, Emmanuel OC Mkpojiogu

Many people now use mobile devices to browse the Web. However, the varying screen sizes of these devices portend some impact on their users' experience, as the Web content on the devices vary in size and the navigation of pages are also different in the various devices. The advent of the responsive web design (RWD) philosophy, revolutionized the way Web pages are designed and the way they appear to the users in the various devices. RWD makes Web pages to adjust to the size of any devices' screen irrespective of the device type. In this study, the effect of responsive web design of the user experience with a laptop and smartphone devices while using the e-Ebola Awareness System, (a Web based health awareness portal for Ebola virus disease), was measured and evaluated. The results revealed that users had a better user experience with Smartphones than with laptops while using the system, however, for most of the metrics collected, users' experiences with the two device types were not significantly different at 95% level of confidence, implying that for those metrics, the responsive web design had a similar effect on the users' experiences and attitudes.

2.3 E-learning systems versus instructional communication tools: Developing and testing a new e-learning user interface from the perspectives of teachers and students:

Wejdan Farhan, Jamil Razmak, Serge Demers, Simon Laflamme

Focusing on Human E-learning Interaction (HEI), this interdisciplinary research integrates concepts from instructional communication and instructional technology and applies them to e-learning systems, focusing on academic stakeholders' roles and competencies. The purpose of this research is to propose and design an E-learning User Interface (ELUI) using web programming languages to support instructional communication in an online learning environment. The proposed interface, considering both students' and teachers' perspectives.

## 2.4 Our studies on other web pages:

2.4.1 edX:

edX is an American massive open online course (MOOC) provider created by Harvard and MIT. It hosts online university-level courses in a wide range of disciplines to a worldwide student body, including some courses at no charge. It also conducts research into learning based on how people use its platform. edX runs on the free Open edX open-source software platform. is the parent company, with edX operating as its global online learning platform and primary brand for products and services.
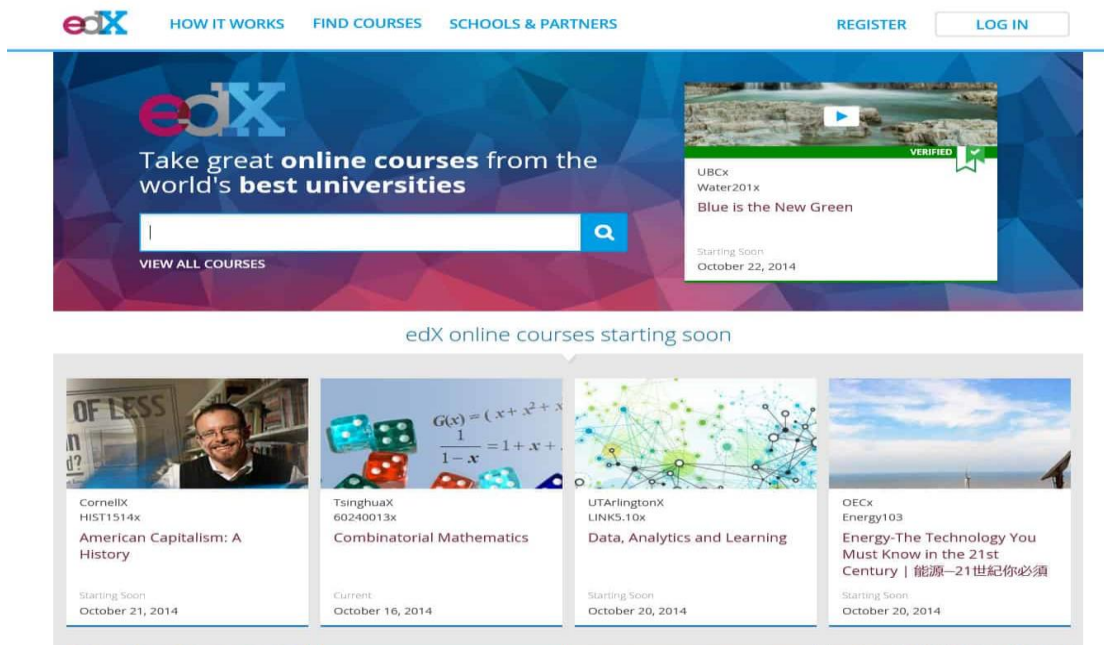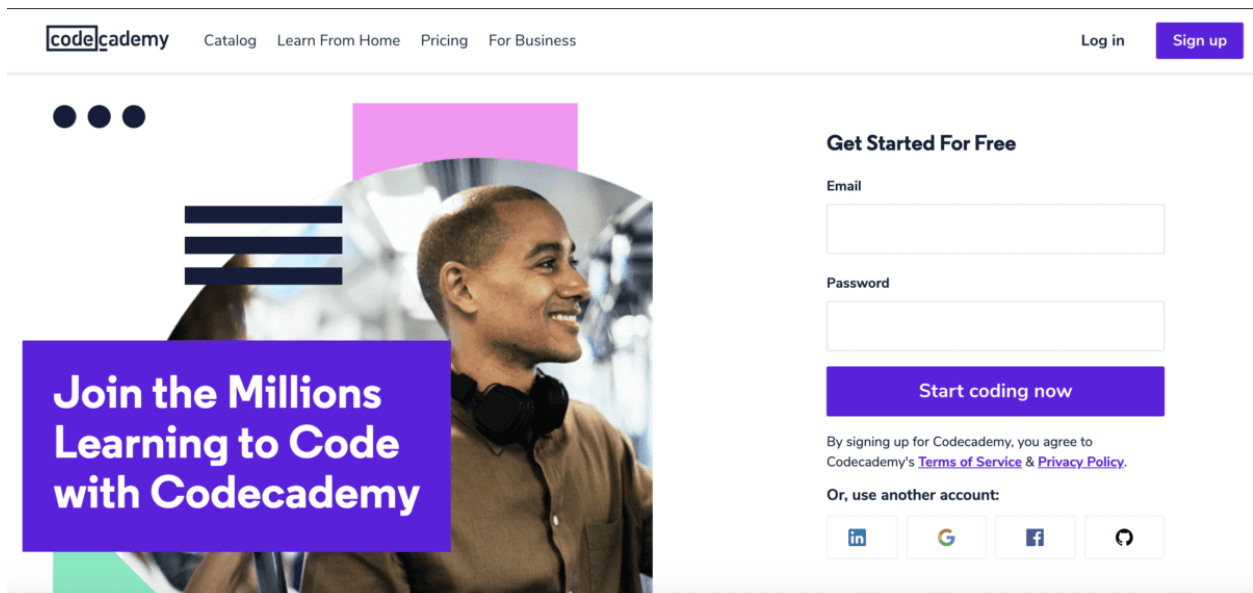
2.4.2 Coursera :

Coursera Inc. is a U.S.-based massive open online course provider founded in 2012 by Stanford University computer science professors Andrew Ng and Daphne Koller. Coursera works with universities and other organizations to offer online courses, certifications, and degrees in a variety of subjects. In 2021 it was estimated that about 150 universities offered more than 4,000 courses through Coursera.
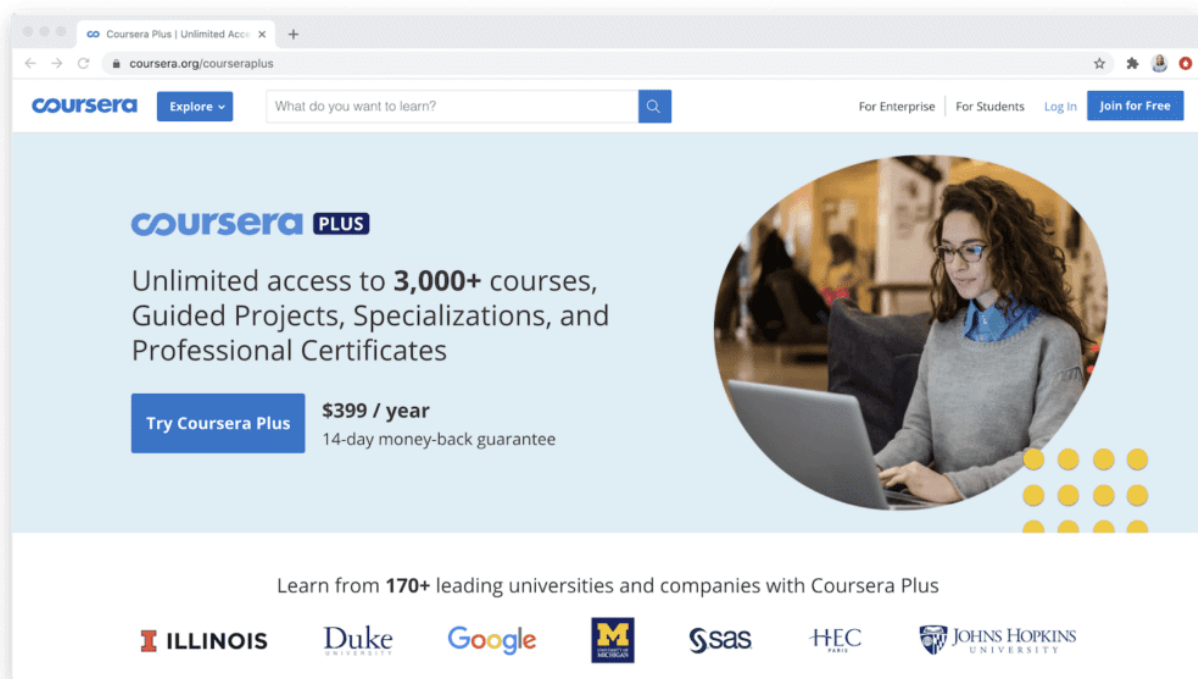
2.4.3 Codecademy :

Codecademy is an American online interactive platform that offers free coding classes in 12 different programming languages including Python (pandas-Python library, Beautiful Soup-Python Library), Java, Go, JavaScript (jQuery, AngularJS, React.js), Ruby (Ruby on Rails-Ruby framework), SQL, C++, C#, Swift, and Sass, as well as markup languages HTML and CSS.