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Vyaapaar – B2B Outsourcing Platform

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Abstract: ***The project is a responsive Web application that will allow businesses from a variety of industries to register, upload, and bid on projects. Businesses on this platform will provide their project requirements and budget, and other businesses in that domain will be able to bid on their quote and provide their business profile. The project owner can then award their project to the company that best meets their budget and requirements. The primary goal of this project is to provide opportunities for businesses to assist one another during these difficult times due to the COVID-19 Pandemic. This project provides registered businesses with a platform to outsource their projects at a reasonable cost with no or minimal workforce, and businesses that are out of business or trying to survive economically will be able to get enough business to sustain themselves by bidding and proposing to projects available on the Vyaapaar application's platform.***

Keywords: outsourcing, business-to-business, web application, mobile application

I. INTRODUCTION

During the COVID-19 Pandemic, the world altered dramatically, with hospital systems, vaccines, and face masks becoming vital parts of our daily routine. 2 The COVID-19 pandemic has brought entire countries to a halt, re-imagined "normal" life patterns, and drove the world economy into one of the worst recessions in recent history [1]. This shift in focus has had a negative impact on the global economy, with uncertainty about future conditions exacerbating the problem. Poor customer demand, supply variations, and shutdown limitations have all had an impact on Indian enterprises, forcing them to walk a tightrope between recovering production systems and keeping their staff safe [2]. Approximately 71.31 percent of enterprises saw lower cash flows during the lockdown, with the industrial sector being the hardest effected. Furthermore, project delays and cancellations have been a major source of concern, particularly in the tertiary industries. Some firms were unable to stay afloat due to a lack of manpower [2].

In such exceptional times, it is essential to align the impact on businesses with policy responses by determining the nature of the crisis's commercial impact. To accomplish so, we're creating a platform for firms to outsource work and collaborate with one another. Businesses from multiple domains will be able to collaborate and enhance their income by bidding on projects listed by companies from various domains.

II. LITERATURE REVIEW

A. *Existing System*

1) *Upwork:* Upwork, originally Elance-oDesk, is a global freelancing platform that connects and collaborates enterprises and independent workers throughout the world. Clients can use Upwork's platform to interview, hire, and work with freelancers and freelancing agencies [3]. The client provides a description of their project as well as a pricing range for a freelancer to perform it. The customer may ask certain freelancers to apply for their jobs, or the job may be posted for any freelancer to apply. The client then conducts "interviews" with potential freelancers. They can sort freelancers by ratings (the number of positive reviews they have), experience (the number of jobs completed successfully), or keywords (what kinds of work the freelancer can do). Clients who want to hire freelancers can also see their ratings and job descriptions. Upwork's platform offers a searchable freelancer directory, filters to help customers locate appropriate workers and freelancers see relevant projects, and a real-time chat function for clients and freelancers to message prospects. The chat tool is designed to speed up the process of finding, vetting, and hiring freelancers [3].

2) *Freelancer:* Freelancer is an Australian freelance marketplace website that allows companies to post jobs for freelancers to bid on [4]. Employers and employees can locate each other on Freelancer. Employers can post jobs on the site for site members to bid on in a competitive bidding procedure [5]. Members can also sponsor and enter contests with cash prizes. As they offer, win, and complete work, as well as post and get reviews of people they work with or for, freelancers and employers build profiles on the site. Members of the site are given a fixed number of bids to use on the site, which are replenished on a regular basis. There are a variety of account varieties, ranging from free accounts to professional subscriptions [5].

B. *Problems in Existing Definition*

1) *Hidden Charges:* These platforms typically charge transaction fees and commissions of up to 20%. They also require the independent workers to pay more fees or money for certain ‘extra’ projects. Furthermore, payment dispute resolution systems are frequently biased, putting the freelancers at a significant disadvantage.

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2) *Spam/Fake Project Posts:* Upwork charges $0.15 each connection and can charge anywhere from $5 to $10 for a project proposal from a freelancer or a worker who bids on a project. When a person's proposal is accepted, Upwork pays the person a commission of up to 20%. Freelancers and other similar platforms, which allow freelancers to find employment with business and individual projects, have similar difficulties. Freelancers frequently come across false or spam project posts when looking for or bidding on projects. Although client is not charged for listing their project, the worker or freelancer is the one who suffers in such situations, as they are normally required to pay to bid or put their proposal on the project. When applying for a project, this leads to a waste of time and resources.
3) *Competition :* Although many firms and enterprises can use these platforms to advertise their tasks, freelancers must compete with a large number of other freelancers in order to get their proposal accepted. Some employment on these platforms, such as writing, transcribing, and virtual assistant jobs, have a low entry barrier and attract a large number of applicants. It can be a race to the bottom if some of those applicants bid really cheap.
4) *Difficulty for New Users:* Due to the obvious intense competition on these platforms, it is quite difficult for a person to locate a quality project on which to work and be compensated. It's even more difficult if you're new to a platform since the majority of bids and projects go to those who have been on the platform for a long time. When working as a freelancer for others and utilising their skillset, this demotivates the person.
5) *Substantial Skill Gap:* Against someone who has years of experience. It is extremely difficult to earn and make a living if a person has only recently begun his work and is honing his skillset. Those with more advanced skill sets and expertise are given the majority of positions. Everyone expects high-quality work and the best possible value for their money. Anyone who posts a job or a project on these platforms always chooses the applicant with the best skillset and work quality for the lowest price possible within their budget. This discourages newcomers from pitching their services to other companies or businesses.

III. IMPLEMENTATION ANALYSIS

A. *Software Specifications*

Web and mobile applications typically include both front end and back-end functionality. We'll need a few pieces of software to do so, including

1) *An Operating System:* Win 7 (x64 bit) and above; MacOS(X); Linux etc.
2) *Web Browser:* Firefox, Opera, Chrome, Safari etc.
3) *Software:* Adobe XD; Figma, Adobe Photoshop, Visual Studio Code, Android Studio
4) *Environment :* NodeJS, Laravel framework
5) *SDK:* Java SDK, Swift SDK, Firebase SDK, Flutter SDK

B. *Flowcharts/Data Flow Diagrams/Entity Relationship Diagrams*

1) *Data Flow Diagram*



Fig. 1 A Dataflow diagram showing the flow of Vyaapaar outsourcing platform

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2) Activity Diagram

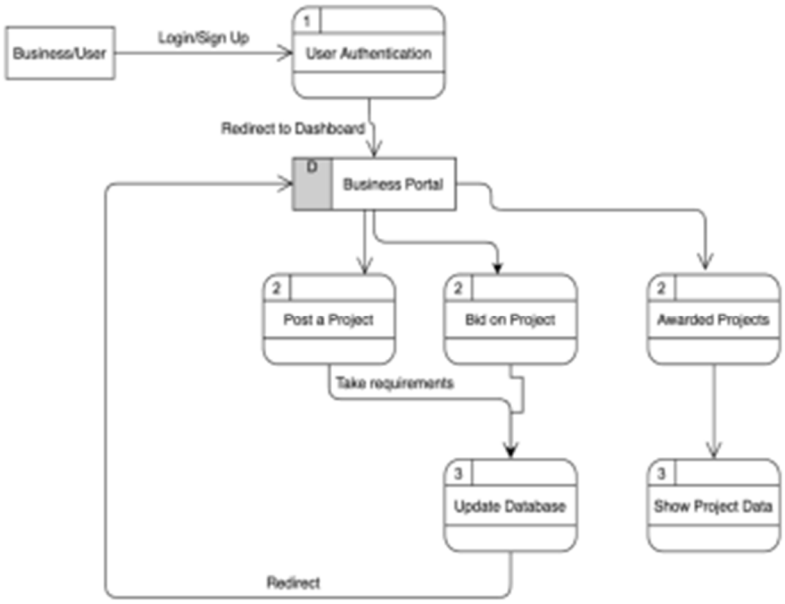


Fig. 2 An activity diagram of the Vyaapaar outsourcing platform

3) Class Diagram

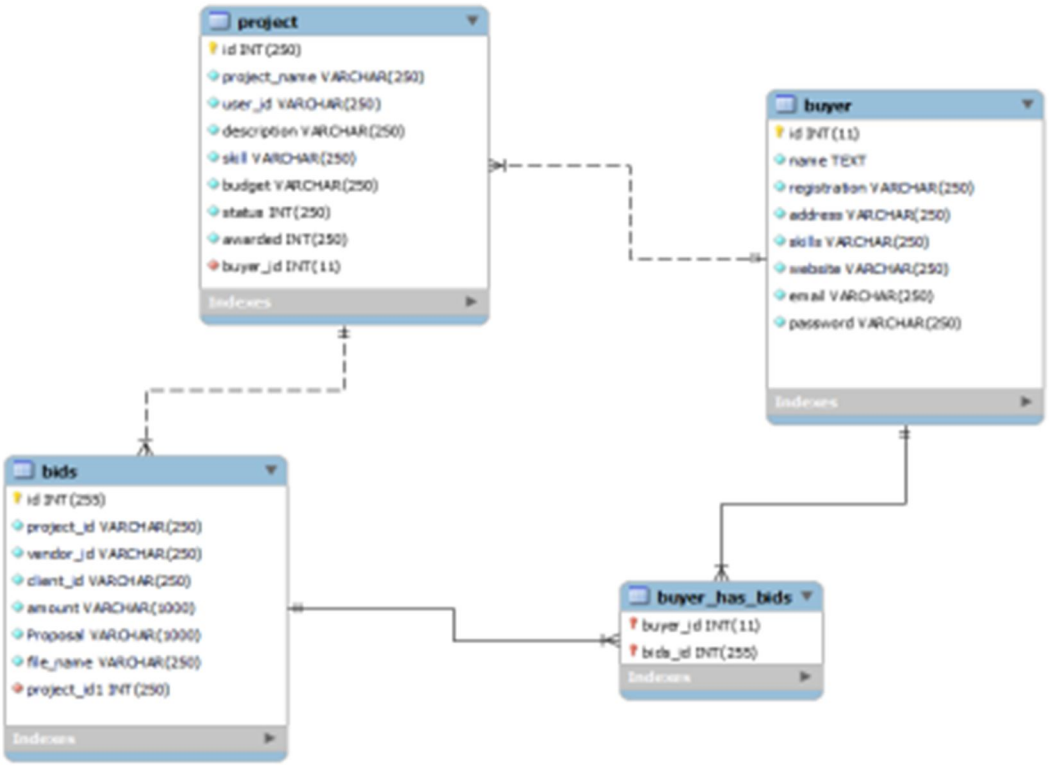


Fig. 3 A class-entity diagram representing the data model of the Vyaapaar outsourcing platform

C. Tech Stack

1) Website Application: HTML, CSS, JavaScript, MySQL, AJAX and Laravel Framework.

2) Mobile Application: Flutter and Firebase.

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D. Website Application

1) *HTML:* HTML is a basic scripting language which is used to create web pages. HTML is abbreviated as HyperText Markup Language. A hypertext link is simply a section of text that serves as a hyperlink [6]. Markup Language is a method of expressing information about document layout. An HTML document is essentially a plain text file containing only text. When a browser opens an HTML file, it looks for HTML codes in the text and uses them to change the layout, insert graphics, or make links to other pages. These documents are plain text files which can be created using any ordinary text editor available.
2) *CSS:* CSS is a programming language which is used to customize the style, animations and appearance of a website. Our website's appearance and layout are described using style sheet language. CSS is used in conjunction with HTML to add colours, backgrounds, layouts, font sizes, and other elements. CSS, or Cascading Style Sheets, is a fundamental design language that is used to make the process of designing presentable web pages easier [7]. CSS is in charge of a website's look and feel. CSS allows you to modify the colour of the text, font style, paragraph spacing, column size and layout, background photos or colours, and a variety of other effects. CSS is simple to learn and understand, but it allows you a lot of control over the appearance of an HTML document . CSS is commonly used with the markup languages HTML or XHTML. CSS saves time by allowing you to develop CSS once and reuse it across several HTML pages. Each HTML element can have its own style, which can be applied to an unlimited number of websites. CSS speeds up page loading by eliminating the need to construct HTML tag attributes each time. Simply create one CSS rule for a tag and apply it to all instances of that tag. As a consequence, fewer lines of code translate to faster download speeds. Simple to maintain - To make a global change, simply edit the style, and all components across all web pages will be changed instantaneously. CSS has a substantially greater amount of properties than HTML, therefore it may provide a much better appearance for your HTML page when compared to HTML attributes [8]. Multiple Device Compatibility - Style sheets allow you to optimise content for multiple devices [8]. Using the same HTML content, several versions of a website may be presented for portable devices such as PDAs and mobile phones, as well as for creating International web standards - HTML attributes are now obsolete, and CSS should be used instead. It's a good idea to start putting CSS into all HTML webpages to make them compatible with future browsers. The current version of CSS includes support for media-specific style sheets, such as printers and audio devices, as well as downloaded fonts, element positioning, and tables [8].
3) *JavaScript:* JavaScript is used in many aspects of web development. Web developers use this language to build interactive components to their websites. JavaScript is not a programming language since the browser does the dirty work. When you advise JavaScript to replace an image with another, it instructs the browser to do the same [9]. Because the browser does all of the heavy work, you just need to pull a few strings with a few lines of code [9]. That is why JavaScript is such an easy language to learn [9]. But don't be fooled by a novice's luck: JavaScript may be difficult as well. To begin with, despite its simple appearance, JavaScript is a full-fledged programming language capable of creating very complex programmes [10]. When working with internet sites, this is rarely necessary, although it is possible. This means that there will be certain tough programming structures that you will only understand after significant investigation. Then there are the browser distinctions, which are more important [11]. Despite the fact that all modern web browsers accept JavaScript, there is no rule mandating them to support the same JavaScript. A significant section of this website is devoted to researching and debating these browser variances, as well as working out how to work around them. So, while basic JavaScript is straightforward to grasp, as you go to more complex programmes, browser incompatibilities (and perhaps syntactic difficulties) may develop.
4) *MySQL:* SQL is a database query language that we use in our Web Application to compute massive amounts of data. We may use SQL to combine data from several databases and adapt our website to our target audience. [12] The MySQL tutorial covers both basic and advanced MySQL concepts. MySQL training is appropriate for both beginners and specialists. [13]. MySQL is a relational database management system based on Structured Query Language [12], the most often used language for accessing and managing database records. MySQL is open source and free software under the GNU licence. Oracle Corporation stands behind it. [14].
5) *AJAX:* AJAX is abbreviated as Asynchronous JavaScript and XML. It is not a scripting or programming language, but a combination of a XMLHttpRequest and JavaScript with HTML Document Object Model. [15]
6) *Laravel Framework:* It follows Model-view-controller design pattern. To help in the building of web applications, Laravel repurposes existing components from many frameworks. The end result is a better organised and practical web application [16]. Taylor Otwell created Laravel, a free, open-source PHP web framework based on Symfony [17]. It is designed for the creation of web applications based on the model view controller (MVC) architectural approach. Laravel features a modular packaging system with specialised dependency management, many methods for accessing relational databases, tools for application deployment and maintenance, and a syntactic sugar approach [16].

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E. Mobile Application

1) *Flutter:* Flutter is an open-source framework by Google which enables the creation of attractive, natively created cross platform applications using a single code base. When designing or creating application(s) with Flutter, everything is a component referred as Widgets. These Widgets are the building blocks for Flutter applications. The user interface is made up of a number of such widgets, where each of them serves a specific purpose. Flutter is used to create UI frameworks which are used for building modern and native applications for both, iOS and Android platform [18]. Flutter creates your user interface with Dart (a programming language), eliminating the need for other languages like as Markup or visual designers. Flutter is declarative, which means that it constructs the UI to represent the state of the app. When the state (data) of the widget changes, the UI is updated and Flutter creates a new instance of the widget [19].
2) *Firebase:* Firebase is a fully managed platform for creating iOS, Android, and Web applications, with capabilities like automated data synchronisation, authentication, messaging, file storage, analytics, and more. It allows us to create a backend for our project [20]. Firebase is built with Google's technologies and is a backend-as-a-service provider (Baas) [20]. It provides a variety of tools and services to assist developers create high-quality apps, grow their user base, and increase their revenue. Firebase is a NoSQL database application that saves information in JSON-like documents

IV. CONCLUSIONS

As a result, this project will provide a platform for businesses and organisations to enable them survive the COVID-19 pandemic economically. A wide range of enterprises from many industries will be able to bid on and deliver projects on a single platform with high-quality service, personalised interactions, 24/7 support, and low costs.

A. Future Enhancements

We can enhance the user experience and add more capabilities in the future, such as business analytics and data analytics, to assist businesses obtain more value from our platform, allowing us to grow this project.

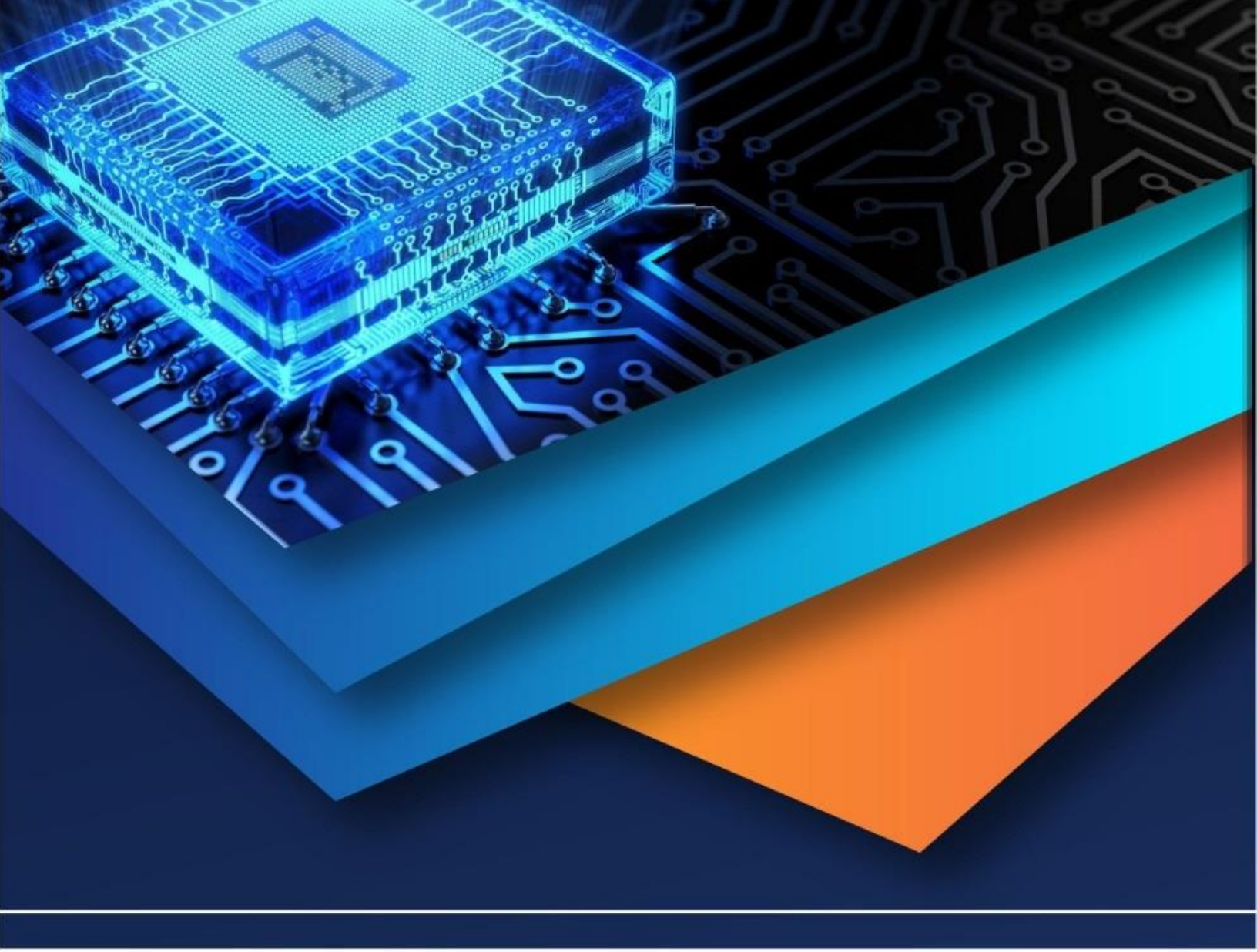
V. ACKNOWLEDGMENT

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REFERENCES

[1] Lisa Maragakis, M.D., M.P.H: The New Normal and Coronavirus, Aug 14,2020, https://www.hopkinsmedicine.org/health/conditions-and diseases/coronavirus/coronavirus-new-normal.
[2] Amit Kapoor, Sampriti Mukherjee, Aditya Nair, How have Indian businesses been impacted during and after the lockdown?Sep,2020, https://economictimes.indiatimes.com/news/economy/indicators/how-have-indian-businesses-been-impacted-during-and-after-the lockdown/articleshow/78382425.cms .
[3] Liam McIvor Martin, Upwork Reviews: is it Worth it? https://biz30.timedoctor.com/upwork-review/.
[4] Freelancer, "About Freelancer: Company Overview & History", https://www.freelancer.com/about.
[5] Freelancer, "Freelancer Membership Plans, Earn and Save More! – Freelancer", https://www.freelancer.com/membership/index.php.
[6] Computer Hope, "HTML", Jan 2, 2021, https://www.computerhope.com/jargon/h/html.htm.
[7] Flanagan, David. JavaScript – The definitive guide (6 ed.). p. 1. "JavaScript is part of the triad of technologies that all Web developers must learn: HTML to specify the content of web pages, CSS to specify the presentation of web pages, and JavaScript to specify the behaviour of web pages."
[8] Tutorialspoint, "What is CSS?", https://www.tutorialspoint.com/css/what_is_css.htm.
[9] B Praveen Kumar, "JavaScript Complete Real Time – Essential Course 2020", https://www.udemy.com/course/javascript-complete-real-time-production usage-2019.
[10] Peter-Paul Koch, "ppk on JavaScript", (1 ed.), New Riders, 2006, "General Introduction". Ch. 1.
[11] Codershire, "JavaScript", https://codershire.com/javascript.
[12] Adrienne Watt, Database Design, (2 ed.), "SQL Structured Query Language", (p. 93)
[13] MySQL, "Learn new MySQL Skills", https://www.mysql.com/training/
[14] Sun Microsystems, "Sun Microsystems Announces Completion of MySQL Acquisition; Paves Way for Secure, Open-Source Platform to Power the Network Economy" (Press release). 26 February 2008.
[15] W3Schools, "AJAX Introduction", https://www.w3schools.com/xml/ajax_intro.asp
[16] Edumpus, "Laravel Framework", https://www.edumpus.com/blog/laravel-framework
[17] Laravel,"Laravel Documentation (versions:3.0-3.2.14)", three.laravel.com, https://web.archive.org/web/20140826200324/http://three.laravel.com/docs/ [18] Marco L. Napoli, "Beginning Flutter – A Hands on Guide to App Development", Ch. 1, "Introducing Flutter and Getting Started", (p. 4) [19] Marco L. Napoli, "Beginning Flutter – A Hands on Guide to App Development", Ch. 3, "Learning Dart Basics", (p. 45) [20] Google Firebase, "Firebase Documentation", https://firebase.google.com/docs/database

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