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Evaluation of UAE E-Commerce Websites – MyGrocery as a Case Study

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***Abstract*- The MyGrocery Website is mainly used at the store, which is mostly random use or when the customer is at home. Understand how users can scan and know where the barcode is Make sure they are using it properly and coordinate with what is at home. Let's pretend you're stuck in the supermarket, unable to move. Check to see whether you have any tomato paste on hand. You spend the most of your time thinking about the fantastic handmade spaghetti meal you'll cook after a 12-hour workweek. To go to the grocery store, you'll have to struggle through heavy traffic and wait for 20 minutes in the corridor. If you don't have any tomato paste on hand, you'll either must pay extra money or keep it in your closet. While it is hardly a life-changing decision, we make it every time we go grocery shopping. Saving money by repurchasing items you already have might pile up quickly at the end of the month. The MyGrocery store Website eliminates the mental upheavals that must be dealt with in the five corridors. There's no need to construct a shopping list. Let's assume you go to the grocery because you need milk, bread, and wheat flakes. The supermarket website scans the barcode of your grocery shop and adds newly acquired milk, bread, and wheat to all of your kitchen's ongoing lists. Scan the barcode on your grocery receipt or use the Website to scan the barcode and record your whole purchase. After you've done eating your brown grass, you'll be ready to go on to the next step.**

Keywords - Usability, E-Commerce Websites, UAE, MyGrocery.

I. INTRODUCTION

So, for this paper, we select many websites in the UAE to check their usability evaluations of the MyGrocery Store website. The online MyGrocery Store Website market is a form of e-commerce that allows consumers to buy food directly like Food, Bakery & Pastry, Drinks, Health & Beauty, and General Products. The online MyGrocery store develops the physical similarity of buying products just like in the local market. The largest online retailing corporations in the UAE are TROLLEY.AE, EL GROCER. These huge online shops can connect their sales over time with the ability to sell fresh food and other household products through the internet [1,2,3,4,5].

The Website will have these main services:

- User Registration: Users can register themselves by creating the account of MyGrocery Store to get all the features of the Website [8].
- Catalog and Cart: Original product catalogs and online shop carts. Users will browse and add products categorized by category and desired ones to the cart. In catalogs, products can be promoted in various ways: through special value propositions ("Old price" has been exceeded and replaced with "new price") [6,7].
- Browse Products: Users can select items from the list of categories easily, also a detailed description of the product also given.
- Easy Search: It has various filters and sorting so that the user can find the exact product.
- Different Payment Modes: Customers can pay whatever they want through various payments cash on delivery, bank transfer, credit card.

- Re-Order: While the order history is saved in the database, customers can easily reorder the previous product. This saves search time. When placing an order, the customer chooses one of the delivery methods (mail, courier, store) [9].
- Order Tracking: Customers can easily track their orders and also get a separate notification for the status of their orders.
- Offers and Discounts: The Website also gives discounts for first-time customers and regular buyers.
- Feedback: User can tell their like and dislike about the product. This feedback also helps maintain a regular relationship with your customers.

II. Problem Definition

So, this is the MyGrocery Website. Let's assume you are standing in the grocery store, unable to move. Consider whether you already have tomato paste on hand. After a 12-hour workweek, you spend most of your time dreaming about the amazing homemade spaghetti dinner you will prepare [10,11,12]. You will fight heavy traffic to get to the grocery shop and stand in the corridor for 20 minutes. If you do not have any tomato paste, you may need to spend more money or store it in your closet. While this is not a life-altering decision, it is one we make every time we go grocery shopping. Saving money by repurchasing things you already own might rapidly add up at the end of the month.

The mental upheavals that must be dealt with in the five corridors are fully eliminated by the MyGrocery shop Website. You do not even need to make a grocery list. Let us say you need milk, bread, and wheat flakes and you head to the supermarket. The supermarket Website reads your grocery store's barcode and adds newly purchased milk, bread, and wheat to all your kitchen's continuing lists [13]. If your supermarket receipt has a barcode, scan it, you can use the Website to scan the barcode and register your whole transaction [14]. After you have finished eating your brown grass, you will be able to open the Website, delete it from your home inventory, and add goods to your grocery list.

III. Research Objectives

Users of this MyGrocery Website can be mainly from middle age to gender distribution Be a little more accommodating to women as they are likely to make large amounts of groceries shopping. It has been suggested from most grocery stores that most consumers are older than the legal driving age the shops are within driving distance. Consumers have a moderate and high socioeconomic background as they need to own a mobile device or laptop to access basic technology along with the MyGrocery Website [15]. Users just need a basic understanding of the English to scan barcodes and use the Website and the Website is user-friendly, Suitable for those with impairments who only have a basic understanding of computers.

Due to the older audience in our target market, most people in their 30s and older maintaining their homes, our goal is to make it simple for them to see and read this software. The icons on the Website are large and have images corresponding to the buttons. An example is an image of a refrigerator, which takes the user to their fridge list [16,17]. Also, we have a plan to use one of the "Mobile Safe" fonts like Ariel, Helvetica, and Verdana [53,54,55,56].

This system is simple to use and requires only a basic understanding of technical capabilities. It necessitates the use of a mobile device, tablet, or laptop. Its user-friendliness makes it accessible to practically everyone.

The grocery Website is mainly used at the stores, which is mostly random use or when the customer is at home [19,20]. Understand how users can scan and know where the barcode is Make sure they are using it properly and coordinate with what is at home [57,58].

IV. Competitors Analysis:

The main problem arising while developing the MyGrocery Store Website is our competitors. Because our competitors are located nearby, and they offer authentic price in Website. And the main problem is that our competitors are well established and experienced [21,22]. So, by understanding our competitors, our website position understands the user and creates value propositions, with 5-star reviews and a marketing strategy that goes above and beyond the competition [23].

The following features which distinguish us from others are:

- High-quality product at low cost in Website with fast delivery of the product.
- Attractive discount packages for regular buyers.

A. TROLLEY.AE

UAE has another grocery delivery website that offers a lot of areas and offers free delivery to orders over AED 100. Customers can find all items that are usually found in supermarkets. If you want your groceries on the same day, you must order the Website by 07:00.

Trolley.AE also hides customer privacy and understands the value of customers in today's world, so the Policy dictates how the collects, and uses, and protects any personal information of customers received from the users of the website [24,25].

- Customer: As customers use this website, users will agree to collect and use the information by this policy. From there, Trolley.AE is committed to ensuring that your privacy is protected. If Trolley asks the customers for personal information to improve their knowledge of the Website, the Company promises to use it only by this policy.
- Marketing: The marketing policy is, so users are encouraged to update their Privacy Policy from time to time. Trolley. ae also reserves the right to modify their website any time, modify, update, add, or delete this Privacy Policy for any reason. If any changes will be posted will take effect as long as there are changes posted.

B. INSTASHOP DUBAI

So this website is launched in 2015, Instashop is a grocery delivery Website in Dubai that first covers a portion of the Dubai Marina, but has slowly spread to all of Dubai, Abu Dhabi, and Sharjah, so this makes it one of the most popular supermarkets in Dubai.

- Customer: The Instashop Dubai Website are very easy to use, the user just has to enter the address, and then Website will provide several supermarkets close to the location. The Instashop Dubai Website also shows the user how long your purchase takes, usually up to an hour, which we think is the smallest price to pay in a car and do not stand in queue with a trolley.
- Marketing: Our goal is to give people like you the opportunity to deliver your groceries without any hassle. Our goal is to get a supermarket at home. The company is based in Dubai and is part of the Jabbar Internet Group. There is a minimum order for AED 20 free delivery, and you can pay in advance with cash or card delivery or online. An easy way to buy your food and bring it to your door for an average of 30 or 60 minutes depending on where you are.

[redacted]EL GROCER

So, this is third another intermediary Website, El Grocery, selects the nearest partner supermarket, allowing you to select your item from the online option [26,27,28].Groceries will be delivered to the customer door within an hour depending on availability. There is no delivery fee, but El Grocery Dubai receives a commission on any items you purchase. The Website is also available in Arabic, making it one of the best groceries Websites for all audiences in Dubai [29,30,31,32].

- Customer: They welcome to the new user to improved delivery service in the UAE. Started El GROCER because I was frustrated with customer delivery services. Low delivery times, rude customer service and quality of products led to quality deliveries [33,34,35,36,37].
- Marketing: We gave El Grocer something different, to be better, the grocery delivery service works for the customer, not against it. The customer service staff are trained to deal with the user at the store. Stores based on your wishes and promoted overlap, so you always have a choice, also they constantly update your product listings, so you don’t have to compromise with your grandmother’s favorite recipes [38,39].

V. SOLUTION SUGGESTED

So, for MyGrocery Website there a lot of phases to complete this Website but our recommendation to the [40,41,42,43] vice president about the developments are in some phases which are as follows:

Firstly, to create the most effective product possible, design phase will employ the user needs analysis. This phase will concentrate on the Grocery Website's unique features and how to make it as user-friendly as possible while also increasing its efficiency. During this stage, it is critical that all target demographics are able to effectively use the Website [44,45,46,47].

The Website will be implemented and developed throughout this period. Because the importance of having the list with you while running errands will be emphasized, the system will be designed to be mostly utilized on a person's mobile device. To update the Website, you will need to connect to the internet via cellular data or a wireless network. Testing will take place following the development process [49.50].

The Grocery Website will be thoroughly tested throughout this phase for a variety of difficulties. Bugs, user usability, and efficiency must all be tested before the Website is released. Obtaining the best prototype possible is critical. This may necessitate the utilization of a focus group, or the client may wish to conduct a staff test [51,52]

There are a lot of barriers in the development process so my review on this Website will only work on mobile devices (phones and tablets), therefore those who are familiar with them should be OK. Those who are not used to utilizing these devices will have a steep learning curve in terms of both the gadget and the Website.

VI. METHODOLOGY

In this paper the methodology is select for this is The Task Walkthrough. Each walkthrough report is preceded by a description of the MyGrocery Website, i.e., which job description and interface are being assessed for reporting purposes. The table itself tells the story, as it records the job walkthrough algorithm's step-by-step findings (see table 1).

VII. DISCUSSION

When it comes to the target demographic, the progression through MyGrocery Store is constant, starting with one device and progressing to the next. For the major stages, as well as the numerous devices with other UAE Websites like Trolley, there is a local website. I had to deal with odd replacements for a long time until they finally produced a work area Website, Ae, El Grocer.

Users are safeguarded against potentially fatal mistakes such as losing all their data or having personal information such as credit card numbers stolen. Consumer protection refers to a person's capacity to recover from a mistake. A relevant objective is to achieve security at a cheap cost. Preventing the Delete Button from Being Used Before the Save Button is an example of a security feature. Another example allows users to correct problems in a few methods, such as reverting to a priority status or restoring normalcy to the system. The author can correct typos in a word processor by hitting Control-Z, pushing the back button, or pressing again. "What kind of customer errors do they make, and how can they learn from them?"

According to Roger, Pierce and Sharp are the following major customer experience goals are as following:

- Motivation
- Fun
- Enjoying
- Support Society
- Network Support Network

A plausible model of an Website is one that the architects want their clients to understand. Clients build a mental picture of how to use the Website by using it, chatting to other clients, and reading the instructions, as well as by using the auto-night mode, auto pickup, and delivery, and sharing their location. In an ideal world, the model that clients

create in their heads is like the one that the creators intended. If the planners have explicitly planned a suitable calculated model as a critical component of their development cycle, this expectation has a better chance of being realized.

TABLE 1 . From Login the MyGrocery Website to the Menu.

Task step	Knowledge? Believable? Motivated?	Comments/solutions.
a Sign in	ok	Website access
b Show the menu	Ok Our menu is accessible via the button, and it includes all of the icons that will lead the user to the Website's intended location?	The main menu button is on the far left, the user logs in, and the grocery list is on the far right, where user can see what groceries are on their shopping list.
c Feature is the inventory	Ok	The feature is the inventory, which allows users to add and remove products they may need to purchase. The log out button is located on the far right and allows the user to exit the system and return to login screen. It is going that way since most users operate from left to right.
d Check in Grocery List	Modest problem	We utilized a checklist icon to go to the grocery list so that the user might associate it with their own list. Because consumers go to the store with shopping lists, this image will serve as a reminder of the list they would have made if the Website had not been available.

We opted to stick to the Website interface and avoid the web interface due to time restrictions and a lack of resources. More people will be able for "download" Website rather than use of mobile website. For final prototype, the team will find a method to bring more color to the Website, but we will skip the photographs. What the system will be used for in the future

- Sign into the Website and access your customized grocery and kitchen lists. Families can use the software on several devices, allowing everyone in the family to swap between lists and create new ones.
- Only mobile devices are supported by the Website.
- Only smart devices with cameras may scan receipts or item barcodes for input, and the Website does not require anything other than an email address and a password, any personal information. The UPC codes are scanned by the camera's scanner.
- Your customized grocery list can be organized either by food category (vegetables, whole grains, pasta) or by purchase date.
- Once the shopping is finished, the user can quickly erase it from the list by searching for it in the list. This is a pop-up screen that asks the user if they want to add an item to their grocery inventory.
- Customers can add things to their grocery list by hand.

VIII. CONCLUSIONS

A conclusion of research of the theory to explain to the user what actions were done and what was accomplished. Visual design, touch, sound, and other factors all come into play when it comes to collaborative development. The aim is to produce an experience in which the user is unable to recall their actions and effects. We've created a variety of design models to deliver client input, and when new communication methods arise, these sorts of feedback will continue to proliferate.To be effective in doing so However, after analyzing the data, UX designers must go beyond designing for consistent use and transparency to create a multidimensional client experience. A public culture refers to the value differences that exist between countries or regions. Each culture, like its audience, places a different value on certain plan components. Because of these societal points of view, they also maintain content in diverse ways.

REFERENCES

[1] Khan, M.A., Ghazal, T.M., Lee, S.-W., Rehman, A., “Data fusion-based machine learning architecture for intrusion detection”, 8:01 PM Page 1 of 4, Computers, Materials and Continua, 70 (2), pp. 3399-3413.

[2] Ali, N., Ghazal, T.M., Ahmed, A., Abbas, S., Khan, M.A., Alzoubi, H.M., Farooq, U., Ahmad, M., Khan, M.A., "Fusion-based supply chain collaboration using machine learning techniques", Intelligent Automation and Soft Computing, 31 (3), pp. 1671-1687, 2022.
[3] Ghazal, T.M., Abbas, S., Munir, S., Khan, M.A., Ahmad, M., Issa, G.F., Zahra, S.B., Khan, M.A., Hasan, M.K., "Alzheimer disease detection empowered with transfer learning Computers, Materials and Continua, 70 (3), pp. 5005-5019.
[4] Alshurideh, M.T., Al Kurdi, B., Alzoubi, H.M., Ghazal, T.M., Said, R.A., AlHamad, A.Q., Hamadneh, S., Sahawneh, N., Al-kassem, A.H., "Fuzzy assisted human resource management for supply chain management issues", Annals of Operations Research.
[5] Ahmed, U., Issa, G.F., Aftab, S., Khan, M.F., Said, R.A.T., Ghazal, T.M., Ahmad, M., Khan, M.A., "Prediction of Diabetes Empowered With Fused Machine Learning, IEEE Access.
[6] Ghazal, T.M., Hasan, M.K., Abdullah, S.N.H., Abubakkar, K.A., Afifi, M.A.M. "IoMT-enabled fusion-based model to predict posture for smart healthcare systems", Computers, Materials and Continua, 71 (2), pp. 2579-2597.
[7] Saleem, M., Abbas, S., Ghazal, T.M., Sahawneh, N., Ahmad, M., "Smart cities: Fusion-based intelligent traffic congestion control system for vehicular networks using machine learning techniques", Egyptian Informatics Journal, 2022.
[8] Hasan, M.K., Ghazal, T.M., Saeed, R.A., Abdel-Khalek, S.,"A review on security threats, vulnerabilities, and counter measures of 5G enabled Internet-of-Medical-Things", IET Communications, 2022, 16(5), pp. 421–432.
[9] Ghazal, T.M., Noreen, S., Said, R.A., Khan, M.A., Siddiqui, S.Y., Abbas, S., Aftab, S., Ahmad, M., "Energy demand forecasting using fused machine learning approaches", Intelligent Automation and Soft Computing", 31 (1), pp. 539-553.
[10] Abbas, S., Alhwaiti, Y., Fatima, A., Khan, M.A., Khan, M.A., Ghazal, T.M., Kanwal, A., Ahmad, M., Elmitwally, N.S. "Convolutional neural network based intelligent handwritten document recognition", Computers, Materials and Continua, 70 (3), pp. 4563-4581.
[11] Q.-T.-A. Khan, T. M. Ghazal, S. Abbas, W. Ahmad Khan, M. Adnan Khan, R. A. Said, M. Ahmad, and M. Asif, "Modeling habit patterns using conditional reflexes in agency," Intelligent Automation & Soft Computing, vol. 29, no. 3, pp. 539–552, Aug. 2021.
[12] E. Rehman, M. A. Khan, T. R. Soomro, N. Taleb, M. A. Afifi, and T. M. Ghazal, "Using blockchain to ensure trust between donor agencies and ngos in under-developed countries," Computers, vol. 10, no. 8, p. 98, Aug. 2021.
[13] T. M. Ghazal, "Positioning of UAV base stations using 5G and beyond networks for IOMT applications," Arabian Journal for Science and Engineering, Aug. 2021.
[14] N. Ali, A. Ahmed, L. Anum, T. M. Ghazal, S. Abbas, M. Adnan Khan, H. M. Alzoubi, and M. Ahmad, "Modelling supply chain information collaboration empowered with Machine Learning Technique", Intelligent Automation & Soft Computing, vol. 29, no. 3, pp. 243–257, Jul. 2021.
[15] T. M. Ghazal, R. A. Said, and N. Taleb, "Internet of vehicles and autonomous systems with AI for Medical Things", Soft Computing, Jul. 2021.
[16] F. Matloob, T. M. Ghazal, N. Taleb, S. Aftab, M. Ahmad, M. A. Khan, S. Abbas, and T. R. Soomro, "Software defect prediction using Ensemble Learning: A Systematic Literature Review", IEEE Access, vol. 9, pp. 98754–98771, Jul. 2021.
[17] T. M. Ghazal, M. Anam, M. K. Hasan, M. Hussain, M. S. Farooq, H. M. A. Ali, M. Ahmad, and T. R. Soomro, "Hep-pred: Hepatitis C staging prediction using fine Gaussian SVM", Computers, Materials & Continua, vol. 69, no. 1, pp. 191–203, Jun. 2021.
[18] Muhammad Farrukh Khan, Taher M. Ghazal, Raed A. Said, Areej Fatima, Sagheer Abbas, M.A. Khan, Ghassan F. Issa, Munir Ahmad and Muhammad Adnan Khan , "An iomt-enabled smart healthcare model to monitor elderly people using machine learning technique", Computational Intelligence for Medical Internet of Things (MIoT) Applications, Volume 2021.
[19] Taher M. Ghazal, Tariq Rahim Soomro, Khaled Shaalan, "Integration of Project Management Maturity (PMM) based on Capability Maturity Model Integration (CMMI)", European Journal of Scientific Research, January 2013.
[20] Mohammed A M Afifi, Deepak Kalra, Taher M. Ghazal, Beenu Mago, "Information Technology Ethics and Professional Responsibilities" , International Journal of Advanced Science and Technology, January 2020.
[21] Nidal Al-Dmour and William Teahan , "The Blackboard Resource Discovery Mechanism for P2P Networks", The International Conference on Parallel and Distributed Computing Systems "PDCS", MIT, Cambridge, MA, USA, November 9-11, 2004.
[22] Mohammed A. Afifi, Deepak Kalra, Taher M. Ghazal, "Integration of Collaboration Systems in Hospitality Management as a Comprehensive Solution" , International Journal of Advanced Science and Technology, April 2020.
[23] Mohammed A. Afifi, Deepak Kalra, Taher M. Ghazal, "The Role of Training in Determining Citizen-Consumer Attitudes Towards the Use of e-Government", Talent Development and Excellence, June 2020.
[24] Mohammed A. Afifi, Deepak Kalra, Taher M. Ghazal, "Data Mining and Exploration: A Comparison Study among Data Mining Techniques on Iris Data Set", Talent Development and Excellence, June 2020.
[25] Taher M. Ghazal, Manas RanjanvPradhan, Drkaramath Ateeq, Beenu Mago, "Encryption as a Service" For Multi-Cloud Environment", International Journal of Research in Engineering and Technology, July 2020.
[26] Taher M. Ghazal, Mohammad Kamrul, Hasan Rosilah Hassan, "Security Vulnerabilities, Attacks, Threats and the Proposed Countermeasures for the Internet of Things Applications",Solid State Technology, 2020.
[27] Taher M. Ghazal, Deepak Kalra, Mohammed A. Afifi, "The Impact of Deploying the Internet of Things and How Will It Change Our Lives", February 2021, Solid-State Electronics.
[28] Nidal Al-Dmour and William Teahan , "Peer-to-Peer Protocols for Resource Discovery in the Grid", The International Conference on Parallel and Distributed Computing and Networks "PDCN", Innsbruck, Austria, February 15-17, 2005.
[29] Petr Svoboda, Taher M. Ghazal, Mohammed A. M. Afifi, "Information Systems Integration to Enhance Operational Customer Relationship Management in the Pharmaceutical Industry", May 2021, The International Conference on Artificial Intelligence and Computer Vision, May 2021.
[30] Khaled Al Shebli, Raed ahmad Said, Nasser Taleb, "RTA's Employees' Perceptions Toward the Efficiency of Artificial Intelligence and Big Data Utilization in Providing Smart Services to the Residents of Dubai", May 2021, The International Conference on Artificial Intelligence and Computer Vision, May 2021.
[31] Muhammad Suleman, Tariq Rahim Soomro, Taher M. Ghazal, Muhammad Turki Alshurideh, "Combating Against Potentially Harmful Mobile Apps", The International Conference on Artificial Intelligence and Computer Vision , May 2021.
[32] Haitham M. Alzoubi, Muhammad Turki Alshurideh, Taher M. Ghazal, " Integrating BLE Beacon Technology with Intelligent Information Systems IIS for Operations Performance: A Managerial Perspective", The International Conference on Artificial Intelligence and Computer Vision, May 2021.
[33] Nidal Al-Dmour and William Teahan, "ParCop: A Decentralized Peer-to-Peer Computing System", IEEE Computer Society Press, pages: 162-168, 2004.

[34] Taher M. Ghazal, Muhammad Turki Alshurideh, Haitham M. Alzoubi, "Blockchain-Enabled Internet of Things (IoT) Platforms for Pharmaceutical and Biomedical Research",The International Conference on Artificial Intelligence and Computer Vision, May 2021.
[35] Rasha M. Al Batayneh, Nasser Taleb, Raed ahmad Said, "IT Governance Framework and Smart Services Integration for Future Development of Dubai Infrastructure Utilizing AI and Big Data, Its Reflection on the Citizens Standard of Living", The International Conference on Artificial Intelligence and Computer Vision, May 2021.
[36] Nidal Al-Dmour and William Teahan , "The Blackboard Resource Discovery Mechanism for Distributed Computing over P2P Networks", The International Conference on Parallel and Distributed Computing and Networks "PDCN", Innsbruck, February 15-17, 2005.
[37] Taher M. Ghazal, Sajid Hussain, Muhammad Farhan , "Detection of Benign and Malignant Tumors in Skin Empowered with Transfer Learning", License CC BY 4.0, March 2022.
[38] William J. Teahan, Nidal A. Al-Dmour and Peter G. Tuff, "Knowledge Distribution in Multi Agent Systems". Asian Journal of Information Technology, 11: 300-311, 2012.
[39] Zitar, R.A., Al-Dmour, N., Nachouki, M., Hussain, H., Alzboun, F., "Hashing generation using recurrent neural networks for text documents", ICIC Express Letters, Part B: Applications, , 2021, 12(3), pp. 231–241.
[40] Taher M. Ghazal, Mohammad Kamrul,, et, "Secure IoMT Pattern Recognition and Exploitation for Multimedia Information Processing using Private Blockchain and Fuzzy Logic", ACM Transactions on Asian and Low-Resource Language Information Processing, April 2022.
[41] Zitar, R.A., Abualigah, L., Al-Dmour, N.A., "Review and analysis for the Red Deer Algorithm", Journal of Ambient Intelligence and Humanized Computing , 2021.
[42] Al-Dmour, N.A., "Using unstructured search algorithms for data collection in IoY-based WSN International Journal of Engineering Research and Technology, 2020, 13(8), pp. 1992–1998.
[43] Hujran, O., Alikaj, A., Durrani, U.K., Al-Dmour, N. Big Data and Its Effect on the Music Industry, 2020 The 3rd International Conference on Software Engineering and Information Management, 2020, pp. 5–9.
[44] Ghazal, Taher M, Taleb, Nasser, "Feature optimization and identification of ovarian cancer using internet of medical things", Expert Systems, 2022
[45] S. Zafar et al., "Assistive Devices Analysis for Visually Impaired Persons: A Review on Taxonomy," in IEEE Access, vol. 10, pp. 13354-13366, 2022, doi: 10.1109/ACCESS.2022.3146728.
[46] Muhammad Mazhar Bukhari, Taher M. Ghazal, Sagheer Abbas, M. A. Khan, Umer Farooq, Hasan Wahbah, Munir Ahmad, and Khan Muhammad Adnan, "An Intelligent Proposed Model for Task Offloading in Fog-Cloud Collaboration Using Logistics Regression", Computational Intelligence and Neuroscience, 2022, 2022, 3606068
[47] Nidal Al-Dmour , "Studying the Impact of DIFS on the QoS Parameters for Wireless Networks", International Review on Computers and Software , Vol. 6, n.3, 2011.
[48] S. Y. Siddiqui, A. Haider, T. M. Ghazal, M. A. Khan, I. Naseer, S. Abbas, M. Rahman, J. A. Khan, M. Ahmad, M. K. Hasan, A. M. A, and K. Ateeq, "IOMT cloud-based intelligent prediction of breast cancer stages empowered with Deep Learning," IEEE Access, vol. 9, pp. 146478–146491, Oct. 2021.
[49] M. K. Hasan, T. M. Ghazal, A. Alkhalifah, K. A. Abu Bakar, A. Omidvar, N. S. Nafi, and J. I. Agbinya, "Fischer linear discrimination and quadratic discrimination analysis–based data mining technique for internet of things framework for Healthcare," Frontiers in Public Health, vol. 9, Oct. 2021.
[50] R. Bibi, Y. Saeed, A. Zeb, T. M. Ghazal, T. Rahman, R. A. Said, S. Abbas, M. Ahmad, and M. A. Khan, "Edge AI-based automated detection and classification of road anomalies in VANET using Deep Learning," Computational Intelligence and Neuroscience, vol. 2021, pp. 1–19, Sep. 2021.
[51] T. M. Ghazal, "Internet of things with Artificial Intelligence for Health Care Security," Arabian Journal for Science and Engineering, Aug. 2021.
[52] T. M. Ghazal, M. K. Hasan, M. T. Alshurideh, H. M. Alzoubi, M. Ahmad, S. S. Akbar, B. Al Kurdi, and I. A. Akour, "IOT for Smart Cities: Machine Learning Approaches in smart healthcare—A Review," Future Internet, vol. 13, no. 8, p. 218, Aug. 2021.
[53] M. Shoukat Aslam, T. M. Ghazal, A. Fatima, R. A. Said, S. Abbas, M. Adnan Khan, S. Yamin Siddiqui, and M. Ahmad, "Energy-efficiency model for residential buildings using supervised machine learning algorithm," Intelligent Automation & Soft Computing, vol. 30, no. 3, pp. 881–888, Aug. 2021.
[54] T. M. Ghazal, M. Zahid Hussain, R. A. Said, A. Nadeem, M. Kamrul Hasan, M. Ahmad, M. Adnan Khan, and M. Tahir Naseem, "Performances of K-means clustering algorithm with different distance metrics," Intelligent Automation & Soft Computing, vol. 29, no. 3, pp. 735–742, Aug. 2021.
[55] Ali, Liaqat, Al-Dmour, N.A, "The shift to online assessment due to COVID-19 — An empirical study of university students, behavior and performance, in the region of UAE",
[56] International Journal of Information and Education Technology, ISSN: 2010-3689, 2021, 11(5), pp. 220–228.
[57] Al-Nashashibi, M., Hadi, W., El-Khalili, N., Issa, G., Albanna, A.A, "A new two-step ensemble learning model for improving stress prediction of automobile drivers", .International Arab Journal of Information Technology, 2021, 18(6), pp. 819–829.
[58] Abu-Arqoub, M., Issa, G., Banna, A.E., Saadeh, H., "Interactive Multimedia-Based Educational System for Children Using Interactive Book with Augmented Reality", Journal of Computer Science, 2020, 15(11), pp. 1648–1658.
[59] Saleh, Y., Issa, G.F., "Arabic sign language recognition through deep neural networks fine-tuning", International journal of online and biomedical engineering, 2020, 16(5), pp. 71–83.