



BOOK OF ABSTRACTS

COMPSPEX-23

Computer Science Senior Project Exhibition Spring 2023

7th June, 2023

Organized by the

Department of Computer Science
in collaboration with the
**Office of Research, Innovation, and
Commercialization (ORIC).**

Forman Christian College (A Chartered University)

All rights reserved. No part of this publication may be produced or transmitted or stored in a retrieval system, in any form or any means without the prior written permission of the copyright owner.

Published by

Faculty of Computer Sciences & Office of Research, Innovation and
Commercialization (ORIC)

Forman Christian College (A Chartered University) Ferozepur Road, Lahore
54600, Pakistan.

<http://www.fccollege.edu.pk>

INTRODUCTION

Forman Christian College, established in 1864, is one of the oldest institutions of its kind in the subcontinent. During its Lifetime FCC has produced many Luminaries of the subcontinent including politicians, judges, educationists, social workers, and scientists. After going through many phases of change in its long history, FCC was decentralized in 2003 to run as an independent institution. The college received its charter in 2004 to function as a degree-awarding institution-The Forman Christian College University (FCCU). During almost one and a half decades of its existence, the FCCU has undergone phenomenal development in terms of infrastructure, academic programs, and student facilities.

The Department of Computer Science is part of the Faculty of Computer and Mathematical Sciences. It offers a rigorous academic program for able and motivated students who are excited by the influence of computing in our lives and who want to tackle the challenges of the future. Computer Science is a fast-changing field and our program aims to equip students with fundamental knowledge that enables them to keep abreast of the latest developments.

ORGANIZING COMMITTEE

Deans:

Dr. Ahmad Mehmood Qureshi

Dr. Kausar Abdullah Malik

Chief Organizers:

Dr. Aasia Khanum

Dr. Mubashar Mushtaq

Dr. Maria Tamoor

Dr Sidra Minhas

Dr. Nosheen Sabahat

Department Coordinators:

Ms. Umber Nisar

Ms. Rabranea Bqa

Ms. Samia Asloob Qureshi

Ms. Asma Basharat

Mr. Anique Atique Alam

Ms. Madiha Shahid

ORIC Organizers:

Mr. Haroon Samson

Mr. Steven Javed

Mr. Shahzaeb Shahid

List of Evaluators

External Evaluators	Internal Evaluators
<ul style="list-style-type: none">• Dr. Abdullah Yousafzai• Dr. Tauqeer Ahmad• Dr. Tayab Iqbal• Dr. Faiza Iqbal• Dr. Ayesha Altaf• Dr. Nosheen Qamar• Dr. Rabia Sirhindi	<ul style="list-style-type: none">• Dr. Mubashar Mushtaq• Dr. Aasia Khanum• Dr. Saba Toor• Dr. Saad bin Saleem• Dr. Sarwan Abbasi• Dr. Sidra Minhas• Dr. Nosheen Sabahat• Dr. Maria Tamoor• Dr. Haroon Shakeel• Dr. Ayesha Khan• Ms. Umber Nisar• Ms. Samia Asloob Qureshi• Ms. Rabaneza Bqa• Ms. Umber Nisar• Ms. Asma Basharat• Mr. Zeeshan Haider• Mr. Akheem Yousaf• Mr. Anique Atique• Mr. Ali Faheem• Mr. Fakhir Shaheen• Mr. Rauf Butt• Mr. Sharoon Nasim

PROJECT EXHIBITION DETAILS

SP23 - COMP457B - PRESENTATIONS SCHEDULE										
S320 - 9:00 to 1:00										
s/n	Time	Project No	Roll Numbers	Names	Project Name	Primary Advisor	External Evaluator	Internal Evaluator	Internal Evaluator	
1	9:00 - 10:00	1	231469272 231465420 231466998	Hadi Hassan Adeel Akmal Ahmed zaka	Real-time Robbery Detection in CCTV cameras	Dr. Sidra Mirhas	Dr. Abdullah Yousafzai	Dr. Saba	Anique	
2	10:00 - 11:00	2	231451736 22-10026 2314-53689	Shaheer Ur Rehman Zohaib Ali Muhammad Arham	Mental Health in Hand - Rating your mental well-being	Dr. Sidra Mirhas		Dr. Saba	Anique	
3	11:00-12:00	3	231451151 2211182 231485698	M. Rohan Ghauri Faraz Taqi Abdullah Baig	MeraLahore - Mobile portal for citizens of Lahore	Dr. Sidra Mirhas		Dr. Saba	Anique	
4	12:00-1:00	15	221440738 221441196 231451753 261684003	Hamza Shahid Muhammad Hazrat Awais Amir Hassaan Bin Khurram	Implementation of two-way communication on app Sunno - Deaf to hearing	Dr. Sidra Mirhas	Dr. Saba	Anique		
S219- 9:00 to 1:00										
5	9:00 - 10:00	5	221437665 22-10294 21-10328	Sawaiz Naseem Omer Farooq Arslan Shahid	2D Face Frontalization (Research)	Dr. Haroon Shakeel	Dr. Tauqeer Ahmad	Dr. Mubashar	Fakhir	
6	10:00 - 11:00	6	231450476 231459045 231488347	Muhammad Talha Yaseen Zeeshan Mehmood Muhammad Sameed Gilani	Hyper Casual Story Game	Dr. Haroon Shakeel		Dr. Mubashar	Fakhir	
7	11:00-12:00	10	231485930 241576854 231492733	Abdul Ahad Butt Mahwish Seemi Haseeb Asif	Automatic Psychological Personality Prediction	Dr. Haroon Shakeel		Dr. Aasia	Fakhir	
8	12:00-1:00	18	231451143 221434772	Muhammad Haroon Muhammad Ahmad Anwar Mirza	Web Portal for Thalassemia Patients	Dr. Haroon Shakeel	Dr. Aasia	Fakhir		
S319- 9:00 to 1:00										
9	9:00 - 10:00	6	231468964 231453914 231468676	Suleiman Raza Hashmi Shehreyar Kichlew Alishbah Shahbaz	3D D2C Platform	Akhaem Yousaf	Dr. Tayab Iqbal	Dr. Saad	Dr. Sarwan	
10	10:00 - 11:00	19	231451216 231451220 231476206	Muhammad Rizwan Azhar Usama Jehangir Muhammad Talha	Progressive web application for therapy	Akhaem Yousaf		Dr. Saad	Dr. Sarwan	
11	11:00-12:00	20	231498962 231467821 231451490	Hamza Zia Bilal Khan Faraz Shakeel	Web App For Customize PC's	Akhaem Yousaf		Dr. Saad	Dr. Sarwan	
12	12:00-1:00	23	231485855 241547206 231485432	Ahnan Ahmed Hatib Zubair Muhammad Muzammil	Intelligent Car Pooling System for FCCU	Akhaem Yousaf	Dr. Saad	Dr. Sarwan		
S218- 9:00 to 1:00										
13	9:00 - 10:00	4	231450813 231451374	Mahnoor Nisra Ali	BillBoard Management System	Asma Basharat	Dr. Faiza Iqbal	Zeeshan	Samia	
14	10:00 - 11:00	16	21-10352 20-10679 231469854	Fahad Iman Raja Fahad Muhammad Mustafa	World war 2 FPS game with procedurally generated levels.	Samia Asloob		Zeeshan	Nosheen	
15	11:00-12:00	21	22-10100 22-10366 241555858	Muhammad Ahmad Shahwar Ansab Mukarram Jamal	Project Hub	Dr. Nosheen Sabahat		Zeeshan	Samia	
16	12:00-1:00	26	231452028	Sumera Shafi	Hole Portal	Dr. Nosheen Sabahat	Zeeshan	Samia		
S215- 9:00 to 1:00										
17	9:00 - 10:00	11	231462066 231468703 231465792	Muhammad Usman Noor Ismail Sajid Muhammad Aneeq Aamir	Platform for legal human rights(Pakistan)	Sharoon Nasim	Dr. Ayesha Altaf	Rauf Butt	Ratranee	
18	10:00 - 11:00	17	231-450678 231-459050	Muhammad Taha Adeel Ramis Asim Khan	Rescue services Application - Modernization of existing 1122 options	Sharoon Nasim		Rauf Butt	Ratranee	
19	11:00-12:00	9	231-450821 231-459170 231-468575	Farhan Mahmood Qureshi Ali Shahzad Syed Arslan Nawaz	Automated Car Accident Detection and Rescue System	Rauf Butt	Sharoon	Ratranee		
20	12:00-1:00	12	231466588 231478288 231496055	Aleena Ali Azeem Laiba Qayyum Shaheryar Gill	On the go: Smart grocer	Rauf Butt	Sharoon	Ratranee		

S- 9:00 to 12:00									
21	9:00 - 10:00	22	231494566 231471220 231492719	Haris Amin Fahad Siddiqui Muhammad Ammar Ahmed	Zombie Busters: A Team of Characters That Survive In An Apocalyptic World	Salman Chaudhry	Dr. Nosheen Qamar	Nosheen	Umber
22	10:00 - 11:00	24	231450473 231487743 241545771	Blal Ahmad Haris Lodhi Zseem Nasir	Application for visually impaired and unprivileged people	Salman Chaudhry		Asma	Umber
23	11:00-12:00	25	231498745 231451669 221438837 231467470	Mahnoor Hayat Muhammad Ramzan Salman Afzaal Ayesha Asghar	Smart container for the reduction of food scraps	Salman Chaudhry		Asma	Umber
S- 9:00 to 12:00									
24	9:00 - 10:00	14	231450900 231450901 231450985	FazalDad Saleem Khuda Dad Saleem Huzaila Khaliq	Soil Analysis System	Ali Faheem	Rabia Sirhindi	Dr. Maria	Dr. Ayesha
25	10:00-11:00	13	231452941 231453415 231450993 231461463	Haziq ahmed Muhammad Sulaiman Sultan Hamza Asaad Ahmad Saad	Mental Health Illnesses Classification using local data	Dr Maria Tamoor		Dr. Ayesha	Ali Faheem
26	11:00-12:00	7	231486203 231497669 231486169	Maha Amer Alina Baiq Minahil Amer	Early detection of Autism	Dr Ayesha Khan		Dr. Maria	Ali Faheem
27	12:00-1:00	14 (FA22)	22-11271 22-11367 22-10198	Ahmad Khan Barki Atfab Arshad Shafay Ahmad	Real time Weed Classification	Dr Ayesha Khan		Dr. Maria	Ali Faheem

Table of Contents

1. Real-time Robbery Detection in CCTV cameras.....	9
2. Mental Health in Hand - Rating your mental well-being	10
3. MeraLahore - Mobile portal for citizens of Lahore.....	11
4. Implementation of two-way communication on app Sunno - Deaf to hearing.....	12
5. 2D Face Frontalization	13
6. Hyper Casual Story Game	14
7. Automatic Psychological Personality Prediction.....	15
8. Web Portal for Thalassemia Patients.....	16
9. Web App For Customize PC's	17
10. 3D D2C Platform	18
11. Progressive web application for Therapy	19
12. Intelligent Car Pooling System for FCCU	20
13. Billboard Management System.....	21
14. World War 2 FPS game with procedurally generated levels	22
15. Project Hub	23
16. Hale Portal	24
17. Platform for legal human rights(Pakistan).....	25
18. Rescue services Application - Modernization of existing 1122 Operations.....	26
19. Automated Car Accident Detection and Rescue System	27
20. On the go: Smart grocer.....	28
21. Zombie Busters: A Team of Characters That Survive In An Apocalyptic World.....	29
22. Application for visaully impaired and unprivileged people	30
23. Smart container for the reduction of food scraps	31
24. Soil Analysis System	32
25. Mental Health Illnesses Classification using local data.....	33
26. Early detection of Autism	34
27. Real time Weed Classification.....	35

Real-time Robbery Detection in CCTV cameras

Hadi Hassan, Adeel Akmal, Ahmed zaka, Dr. Sidra Minhas*

*Department of Computer Science, Forman Christian College and University, Zahoor Elahi
Road Gulberg III, Lahore, Pakistan*

Presenter: [231469272 @formanite.fccollege.edu.pk](mailto:231469272@formanite.fccollege.edu.pk)

Correspondence: sidraminhas@fccollege.edu.pk

ABSTRACT

In our society, law enforcement agencies often face challenges in efficiently tracking down robberies, resulting in low retrieval rates for stolen goods. Motivated by the recent rise in snatching and robbery incidents in Karachi, this project aims to address this issue by developing a real-time robbery detection system. The importance of timely intervention and its potential impact on crime reduction serve as strong motivators for this work. The project utilizes a machine learning (ML) model trained on the UCF Crimes dataset, employing a Long Short-Term Memory (LSTM) based approach. The model achieves an impressive accuracy of 88% with a validation loss below 0.3, demonstrating its effectiveness in accurately detecting robbery incidents. By leveraging the temporal dependencies captured by the LSTM model, the system enables real-time anomaly detection, facilitating prompt alerts to authorities. The developed system acts as a preventive tool that can significantly contribute to reducing the crime rate in society. Through its ability to detect anomalies in real-time, it empowers law enforcement agencies to take proactive measures and intervene swiftly. By providing timely alerts, the system enhances the chances of apprehending perpetrators and recovering stolen goods before it is too late. The findings of this project highlight the potential of ML-based approaches in addressing societal challenges. The robust performance of the developed system offers insights into the feasibility of implementing such technologies to improve public safety. The results are specific to robbery detection but may serve as a roadmap for developing similar real-time surveillance systems for different types of crimes. Overall, this project's successful implementation of a real-time robbery detection system underscores its potential to contribute to crime prevention and law enforcement efforts, making communities safer and more secure.

Keywords:

Mental Health in Hand - Rating your mental well-being

Shaheer Ur Rehman, Zohaib Ali, Muhammad Arham, Dr. Sidra Minhas*

*Department of Computer Science, Forman Christian College and University, Zahoor Elahi
Road Gulberg III, Lahore, Pakistan*

Presenter: 231451798@formanite.fccollege.edu.pk

Correspondence: sidraminhas@fccollege.edu.pk

ABSTRACT

Our project was motivated by the need to increase access, awareness, and self-care in mental health in Pakistan. We identified two key aspects: the lack of a self-assessment tool for the average Pakistani in their native language, Urdu, and the need to address the shortage of mental health resources. Additionally, considering that most people cannot afford private diagnosis, our tool serves as a gateway into mental health awareness. While it is not a replacement for professional services, it provides an opportunity for individuals to take an active role in assessing their mental well-being. By developing a user-friendly self-assessment tool in Urdu, we aimed to empower individuals to assess their mental health independently and bridge the gap in mental health support. Pakistan faces a significant deficit in mental health facilities, contributing to one of the largest distressed populations in the world. As reported by DAWN newspaper in 2016, an alarming 50 million Pakistanis suffer from common mental illnesses. Unfortunately, the lack of awareness surrounding mental health issues hampers the population from seeking appropriate care. Both public and private health facilities suffer from a severe shortage, unable to adequately meet the needs of the Pakistani population. Furthermore, the limited availability of private facilities makes them unaffordable for the average Pakistani. Our goal is to develop a reliable and comprehensive self-assessment tool that allows individuals to gauge their well-being. This tool is designed to be user-friendly, enabling laypeople to assess themselves effectively. Rather than focusing on specific mental health conditions, our assessment caters to a broad audience and considers multiple factors. To create the tool, we utilized a larger questionnaire based on the DSM-5 and employed machine learning and explanatory data analytics techniques to identify the most relevant factors. The questionnaire was specifically tailored to suit the needs of the Pakistani population. In our study, we collected a dataset of 9000 rows and conducted exploratory data analysis and feature engineering. Our model yielded impressive results, including an accuracy of 91.16%. The precision score was 0.9181, recall score was 0.9179, and F1 score was 0.9180, indicating strong performance. The micro-F1 score was 0.9164, and the macro-F1 score was 0.9265. These metrics demonstrate the effectiveness of our model in accurately assessing mental health conditions.

Keywords:

MeraLahore - Mobile portal for citizens of Lahore

M. Rohan Ghauri, Faraz Taqi, Abdullah Baig, Dr. Sidra Minhas*

*Department of Computer Science, Forman Christian College and University, Zahoor Elahi
Road Gulberg III, Lahore, Pakistan*

Presenter: 231451151@formanite.fccollege.edu

Correspondence: sidraminhas@fccollege.edu.pk

ABSTRACT

Despite significant technological progress in Lahore, a substantial portion of its citizens remains unaware of their constitutional boundaries, leading to a lack of knowledge about the appropriate channels for addressing local problems and filing complaints. Many citizens in Lahore face challenges and concerns that are intertwined with governance, but they lack the knowledge and means to navigate within the constitutional framework. Mera Lahore serves as a comprehensive resource to educate citizens about their rights, responsibilities, and the elected representatives. Through the intuitive user interface, citizens can easily access information related to constitutional boundaries. The app provides detailed content on the constitutional boundaries and the elected representatives. By understanding the larger context in which local issues arise, citizens are better equipped to engage with their elected representatives and advocate for necessary reforms. The UC Analysis can assist citizens in making the right decisions in elections. Mera Lahore also emphasizes the establishment of an image-based complaint system within the mobile application. Citizens can submit complaints and provide feedback anonymously, ensuring they can express their concerns without fear of reprisal. This feature is crucial for citizens who may be hesitant to come forward due to various reasons, allowing for a more inclusive and transparent complaint process. The admin panel plays a pivotal role in managing the complaint system. Authorized personnel can efficiently review, categorize, and address complaints using the panel's centralized dashboard. The technical implementation of the project relies on Kotlin for the front-end development, ensuring a seamless and engaging user experience. NodeJS powers the backend, facilitating secure communication and efficient data processing. Hosting the application on AWS EC2 provides scalability and reliability to accommodate a growing user base. MongoDB, stored on an AWS S3 bucket, ensures efficient data storage, retrieval, and management.

Keywords:

Implementation of two-way communication on app Sunno - Deaf to hearing

Hamza Shahid, Muhammad Hazrat, Awais Amir, Hassaan Bin Khurram, Dr. Sidra Minhas*

*Department of Computer Science, Forman Christian College and University, Zahoor Elahi
Road Gulberg III, Lahore, Pakistan*

Presenter: 221441166@formanite.fccollege.edu

Correspondence: sidraminhas@fccollege.edu.pk

ABSTRACT

This report introduces a groundbreaking Android application, "Sunno," specifically designed to address communication barriers between hearing individuals and the deaf community. The primary focus of this innovative tool is sign-to-text conversion, enabling seamless and inclusive communication for deaf individuals. The application accepts user input in the form of sign language gestures captured through the device's camera. Leveraging advanced machine learning algorithms, Sunno interprets these gestures in real-time and converts them into text, eliminating the need for intermediaries or internet connectivity. The Sunno app aims to provide a simple and efficient communication solution for deaf individuals. By allowing them to express themselves through sign language and converting it into text, the app facilitates effective interaction with hearing individuals who may not be familiar with sign language. This report will delve into the detailed functionalities, implementation strategies, and potential societal impact of the Sunno application, highlighting its significance in bridging the communication gap and promoting inclusivity for the deaf community.

Keywords:

2D Face Frontalization

Sawaiz Naseem, Omer Farooq, Arslan Shahid, Dr. Haroon Shakeel *

*Department of Computer Science, Forman Christian College and University, Zahoor Elahi
Road Gulberg III, Lahore, Pakistan*

Presenter: 221437665@formanite.fccollege.edu.pk

Correspondence: haroonshakeel@fccollege.edu.pk

ABSTRACT

A significant number of countries actively employ AI technologies for surveillance purposes. These systems help automate security tasks such as monitoring and reporting suspicious activity and responding to security incidents. Despite recent success in this domain, challenges persist, such as low-resolution video footage and limited capture angles, leading to partial information in surveillance scenes. Face frontalization, aiming to generate accurate estimates of frontal faces from pose-invariant images, attempts to simplify the recognition of individuals from surveillance footage. In this project, we experimented with deep learning-based architectures for the face frontalization task. Our research led us to propose a novel neural network architecture that combines Convolutional Neural Networks (CNNs), Variational Autoencoders (VAEs), and Vision Transformers. Despite challenges in texture mapping, image quality, and working with a relatively smaller dataset compared to previous studies, our results showed promising progress in generating frontalized faces and improving reconstruction metrics. Also, our findings provide valuable insights into the potential of VAEs for image-to-image translation tasks. However, we observed that further refinement is necessary to achieve a more generalizable solution for real-world scenarios. Future research can build upon our work to develop more robust and accurate methods for image manipulation and synthesis in image-to-image translation tasks.

Keywords:

Hyper Casual Story Game

Muhammad Talha Yaseen, Zeeshan Mehmood, Muhammad Sameed Gilani, Dr. Haroon Shakeel *

*Department of Computer Science, Forman Christian College and University, Zahoor Elahi
Road Gulberg III, Lahore, Pakistan*

Presenters: [231450476 @formanite.fccollege.edu.pk](mailto:231450476@formanite.fccollege.edu.pk),

Correspondence: haroonshakeel@fccollege.edu.pk

ABSTRACT

The Mobile game industry is rapidly growing with specific attention to Southeast Asia. A lucrative segment in the global narrative with area for exponential growth which the industry has its eyes keenly set on. Our game will have its focus on an even more specified part of this market, i.e., Pakistan, India and Bangladesh. But it certainly will not be limited to them. The goal is to create a mobile game, that targets this sector of this blooming market while also having a universal experience. To simply create a more relatable or recognizable experience for the aforementioned cultures while not alienating the rest of the wider market. As the title of the project implies, we decided upon a mobile farming game with its roots set in Pakistani culture, but in extension to India and Bangladesh due to the similarity. Which will give these markets a slightly more personalized experience to farming games, as the vast majority of farming games available on the Google Play Store are Western. For, to the best of our knowledge, this is one of the few personalized farming games experiences that might be available, especially for our culture. Cultural representation is an important aspect of individuality in the times we live in, and most players value representation and effort being put in for their culture, over a myriad other mobile game doing the same thing as each other. Only considering the market of Pakistan in number of users, there are an estimated 36.8 million people. The game we are developing will be giving this ever-growing userbase the relatable experience of seeing, Pakistani village architecture, dressing, tools and the overall feeling of familiarity of what they know and see in countryside of Pakistan. Observing the success of farming games on the Google Play Store, our mobile game will employ the fundamentals of their success in gameplay while steering the art direction and introducing our own gameplay mechanics that best suit the representation of our culture. The efficacy of our implementation and development of this aim, we judged from a curated survey filled by the respondent after playing a certain portion of the beta version game, providing their insight and opinion.

Keywords:

Automatic Psychological Personality Prediction

Abdul Ahad Butt, Mahwish Seemi, Haseeb Asif, Dr. Haroon Shakeel *

*Department of Computer Science, Forman Christian College and University, Zahoor Elahi
Road Gulberg III, Lahore, Pakistan*

Presenter: 231485930@formanite.fccollege.edu.pk

Correspondence: haroonshakeel@fccollege.edu.pk

ABSTRACT

Personality serves as a distinguishing factor among individuals, influencing their thoughts, behaviors, and emotions. In education, understanding students' personalities is crucial for providing effective instruction that caters to their unique cognitive abilities. Our application PersonalityScape AI aims to provide the right tool to the teachers that would bridge the gap between teachers understanding their students' cognitive strengths and weaknesses. Hence, allowing teachers to adopt a learning style that would help each student to achieve their maximum potential. It's a web-based application that utilizes a natural language processing model, specifically transformers, to predict student personalities. Students complete a questionnaire by providing prompts that reflect their thoughts, preferences, and attitudes. The transformer model is trained using a zero-shot classification approach, enabling it to classify input prompts into predefined personality traits without explicit training data for each trait. The results of utilizing PersonalityScape AI have been promising as it accurately predicts personality traits based on the provided prompts. Teachers using PersonalityScape AI can easily process student responses and obtain personality trait predictions, enabling them to better understand their students on a deeper level. By incorporating these predictions into their teaching strategies, teachers can customize their approach to each student's unique characteristics and preferences. The application goes beyond personality predictions by leveraging additional factors such as grades, hobbies, and SAT scores to recommend suitable universities, careers, and majors to students. Furthermore, PersonalityScape aids in identifying students who may require counselling, enabling timely interventions and targeted guidance to support their overall well-being and academic success. With PersonalityScape AI, teachers can gain a comprehensive understanding of each student's unique characteristics, preferences, and attitudes. Armed with this knowledge and deep insight of student's personalities, educators can develop customized teaching strategies that cater to individual learning styles and interests, ultimately fostering a more engaging and effective learning experience.

Keywords: Transformers, Natural Language Processing, Zero-Shot Classification

Web Portal for Thalassemia Patients

Muhammad Haroon, Muhammad Ahmad Anwar Mirza, Dr. Haroon Shakeel *

*Department of Computer Science, Forman Christian College and University, Zahoor Elahi
Road Gulberg III, Lahore, Pakistan*

Presented by: 231451143@formanite.fccollege.edu.pk

Correspondence: haroonshakeel@fccollege.edu.pk

Abstract

Thalassemia is a genetic blood disorder that requires regular blood transfusions for affected patients. To address the challenges of finding suitable blood donors and managing patient-donor matching, we have developed a web portal dedicated to thalassemia patients. This portal serves as a centralized platform for patient registration, donor registration, and efficient blood-matching processes. The web portal enables patients to register their information, including medical history and transfusion needs, while the admin oversees the registration process. Donors can also register online. Upon registration, the portal facilitates donor-patient matching by presenting donors with a comprehensive list of registered patients and their information. Donors can prioritize patients they have previously donated to, ensuring continuity of care. The system provides a range of available dates for blood donation, and donors receive reminder emails to encourage participation. By using technology and adopting a patient-centric approach, the portal offers a valuable resource for thalassemia patients, improving access to suitable donors and promoting timely blood transfusions. The development of this web portal contributes to the advancement of thalassemia care, ultimately enhancing the quality of life for thalassemia patients and fostering a supportive community of donors and recipients.

Keywords:

Web App For Customize PC's

Hamza Zia, Bilal Khan, Faraz Shakeel, Akheem Yousaf*

*Department of Computer Science, Forman Christian College and University, Zahoor Elahi
Road Gulberg III, Lahore, Pakistan*

Presenter: 231498962 @formanite.fccollege.edu.pk

Correspondence: akheemyousaf@fccollege.edu.pk

ABSTRACT

Keywords:

3D D2C Platform

Suleiman Raza Hashmi, Shehreyar Kitchlew, Alishbah Shahbaz, Akheem Yousaf *

*Department of Computer Science, Forman Christian College and University, Zahoor Elahi
Road Gulberg III, Lahore, Pakistan*

Presenter: 221441380@formanite.fccollege.edu.pk,

Correspondence: akheemyousaf@fccollege.edu.pk

ABSTRACT

Keywords:

Progressive web application for Therapy

Muhammad Rizwan Azhar, Usama Jehangir, Muhammad Talha, Akheem Yousaf*

*Department of Computer Science, Forman Christian College and University, Zahoor Elahi
Road Gulberg III, Lahore, Pakistan*

Presenter: 231451216 @formanite.fccollege.edu.pk

Correspondence: akheemyousaf@fccollege.edu.pk

ABSTRACT

Keywords:

Intelligent Car Pooling System for FCCU

Afnan Ahmed, Hatib Zubair, Muhammad Muzammil, Akheem Yousaf *

*Department of Computer Science, Forman Christian College and University, Zahoor Elahi
Road Gulberg III, Lahore, Pakistan*

Presenter: [231485855 @formanite.fccollege.edu.pk](mailto:231485855@formanite.fccollege.edu.pk)

Correspondence: akheemyousaf@fccollege.edu.pk

ABSTRACT

Keywords:

Billboard Management System

Mahnoor, Nisma Ali, Asma Basharat *

*Department of Computer Science, Forman Christian College and University, Zahoor Elahi
Road Gulberg III, Lahore, Pakistan*

Presenter: 231450813@formanite.fccollege.edu.pk

Correspondence: asmabasharat@fccollege.edu.pk

ABSTRACT

In this current era, Technology and the internet are rapidly spreading all over the world. Everything is changing virtually or improvements are being made on a daily basis but there are a few areas that are still lacking, one of which is Billboard management system. Advertising must be increasingly creative due to changing customer needs and behaviors. The necessity for innovative strategic studies was highlighted by the need to stand out and the requirement to communicate effectively with the target consumers. Advertising on billboards is crucial and it needs to be placed in the correct location at the right time in order to have creative commercials, appropriate methods are required. There are very few websites related to billboard management system that let you filter according to your advertisement requirements but there is always room for improvement which we are planning to cater through our website. Companies usually find it hard reaching out to billboard management companies so we aim to do research and provide them with a web application for making the rental process more effective and relatively easier for the benefit of both, The Billboard Company and advertisers.

Keywords:

World War 2 FPS game with procedurally generated levels

Fahad Imran, Raja Fahad, Muhammad Mustafa, Samia Asloob Qureshi *

*Department of Computer Science, Forman Christian College and University, Zahoor Elahi
Road Gulberg III, Lahore, Pakistan.*

Presenter: 20-10679@formanite.fccollege.edu.pk

Correspondence: samiaqureshi@fccollege.edu.pk

ABSTRACT

The increasing demands for immersive and diverse gameplay experiences in first-person shooting (FPS) games has driven the need for innovative approaches to map design. The creation of dynamic and distinctive settings by procedural map generation, which improves replay value and player engagement. Aim is to implement procedural map generation in FPS games for improved gameplay experience. The absence of dynamic and diverse maps in FPS games is the issue, this project seeks to solve, as this can result in repetitive gameplay and waning player interest. The goal of this work is to create a procedural map generation in first-person shooter game that can create maps with various layouts, terrains, structures, and interactive objects on its own. So the players can have a dynamic gameplay environment that tests their abilities and promotes exploration. The purpose of the project is to implementing and integrating different procedural generation algorithms, such as Perlin noise, and fractal-based methods, was implemented to achieve the goal of the project. Realistic topography, a variety of architectural styles, and interacting items were all created using these techniques. The quality, fairness, and balance of the created maps were ensured through simulation, iterative testing, and fine-tuning during the development phase. The results of implementing procedural generation in first person shooter game produces maps that offers players distinctive and challenging gameplay experiences because of their high level of diversity, intricacy, and realism. Map variability, replay ability, and player involvement will show a considerable improvement over fixed, hand-crafted maps. The results of this project suggest that procedural map generation in first-person shooter games has enormous potential for improving the gameplay experience. This will results in maps that are dynamic and varied, which boosts replay ability, player engagement, and immersion. Future FPS game creators can use these methods as a guide to incorporate generative map-generating methods and produce more exciting and varied gaming locations. The idea of procedural map generation implemented in this project can be applicable to various FPS game scenarios, encouraging innovation and development in the gaming sector.

Keywords:

Project Hub

Muhammad Ahmad, Shahwar Ansab, Mukarram Jamal, Nosheen Sabahat*

*Department of Computer Science, Forman Christian College and University, Zahoor Elahi
Road Gulberg III, Lahore, Pakistan*

Presenter: 22-10100@formanite.fccollege.edu.pk

Correspondence: [NosheenSabahat @fccollege.edu.pk](mailto:NosheenSabahat@fccollege.edu.pk)

ABSTRACT

In the world of prospering technology, institutions still rely on manual labor to accomplish task that if they were provided technology, spending hours of planning would just be reduced to matter of seconds. Such one task is scheduling a timetable for teachers or if the administration wants to make a standardized schedule for exam. To address this problem and replacing the cost of manual labor and the hours that are spent in making a schedule that could be utilized elsewhere is paramount. Making a schedule for an entire semester utilizes a lot of time and energy and with the availability of proper resources the entirety of the task is taken care of. To solve such a problem, many scheduling software's have been developed, however it's the lack of generality that rarely meets the demands of different institutions. Every institution works in its own way and yes, it's true, schedules timetables for the students in their own way. This project explains that the best way to achieve this goal for the Forman Christian College (A Chartered University).

Keywords:

Hale Portal

Sumera Shafi, Nosheen Sabahat*

*Department of Computer Science, Forman Christian College and University, Zahoor Elahi
Road Gulberg III, Lahore, Pakistan*

Presenter: 231452028@formanite.fccollege.edu.pk

Correspondence: [NosheenSabahat @fccollege.edu.pk](mailto:NosheenSabahat@fccollege.edu.pk)

ABSTRACT

Keywords:

Platform for legal human rights(Pakistan)

Muhammad Usman Noor, Ismail Sajid, Muhammad Aneeq Aamir, Sharoon Nasim*

*Department of Computer Science, Forman Christian College and University, Zahoor Elahi
Road Gulberg III, Lahore, Pakistan*

Presenter: 231462066@formanite.fccollege.edu.pk

Correspondence: SharoonNasim@fccollege.edu.pk

ABSTRACT

Keywords:

Rescue services Application - Modernization of existing 1122 Operations

Muhammad Taha Adeel, Ramis Asim Khan, Sharoon Nasim*

*Department of Computer Science, Forman Christian College and University, Zahoor Elahi
Road Gulberg III, Lahore, Pakistan*

Presenter: 231-450678@formanite.fccollege.edu.pk

Correspondence: SharoonNasim@fccollege.edu.pk

ABSTRACT

Keywords:

Automated Car Accident Detection and Rescue System

Farhan Mahmood Qureshi, Ali Shahzad, Syed Arslan Nawaz, Rauf Butt *

*Department of Computer Science, Forman Christian College and University, Zahoor Elahi
Road Gulberg III, Lahore, Pakistan*

Presenter: 231-450821@formanite.fccollege.edu.pk

Correspondence: RaufButt@fccollege.edu.pk

ABSTRACT

Keywords:

On the go: Smart grocer

Aleena Ali Azeem, Laiba Qayyum, Shaheryar Gill, Rauf Butt *

*Department of Computer Science, Forman Christian College and University, Zahoor Elahi
Road Gulberg III, Lahore, Pakistan*

Presenter: 231466588@formanite.fccollege.edu.pk

Correspondence: RaufButt@fccollege.edu.pk

ABSTRACT

Keywords:

Zombie Busters: A Team of Characters That Survive In An Apocalyptic World

Haris Amin, Fahad Siddiqui, Muhammad Ammar Ahmed, Muhammad Salman Chaudhry *

*Department of Computer Science, Forman Christian College and University, Zahoor Elahi
Road Gulberg III, Lahore, Pakistan*

Presenter: 231494566@formanite.fccollege.edu.pk

Correspondence: salmanchaudhry@fccollege.edu.pk

ABSTRACT

Keywords:

Application for visually impaired and unprivileged people

Bilal Ahmad, Haris Lodhi, Zaeem Nasir, Muhammad Salman Chaudhry *

*Department of Computer Science, Forman Christian College and University, Zahoor Elahi
Road Gulberg III, Lahore, Pakistan*

Presenter: 231450473@formanite.fccollege.edu.pk

Correspondence: salmanchaudhry@fccollege.edu.pk

ABSTRACT

Keywords:

Smart container for the reduction of food scraps

Mahnoor Hayat, Muhammad Ramzan, Salman Afzaal, Ayesha Asghar, Muhammad Salman Chaudhry *

Department of Computer Science, Forman Christian College and University, Zahoor Elahi Road Gulberg III, Lahore, Pakistan

Presenter: 231498745@formanite.fccollege.edu.pk

Correspondence: salmanchaudhry@fccollege.edu.pk

ABSTRACT

Keywords:

Soil Analysis System

FazalDad Saleem, Khuda Dad Saleem, Huzaifa Khaliq, Ali Faheem*

*Department of Computer Science, Forman Christian College and University, Zahoor Elahi
Road Gulberg III, Lahore, Pakistan*

Presenter: 231459090@formanite.fccollege.edu.pk

Correspondence: alifaheem@fccollege.edu.pk

ABSTRACT

Keywords:

Mental Health Illnesses Classification using local data

Haziq ahmed. Muhammad Sulaiman Sultan. Hamza Asaad. Ahmad Saad, Maria Tamoor*

*Department of Computer Science, Forman Christian College and University, Zahoor Elahi
Road Gulberg III, Lahore, Pakistan*

Presenter: 231452941@formanite.fccollege.edu.pk

Correspondence: mariatamoor@fccollege.edu.pk

ABSTRACT

Researchers provide effective solutions for serious problems such as mental health. This field of study ranges from understanding the impact of mental health ailments on individuals to identifying trends in mental health diseases based on various data points. Unfortunately, the journey from diagnosis to receiving a proper mental health regimen is costly and inaccessible to many. This necessitates the introduction of an affordable alternative that enables individuals with internet access to connect to a platform to determine whether they require the services of a mental health professional. Additionally, such a platform can assist mental health professionals in quickly identifying patients with mental health conditions. Our proposed solution leverages hidden trends in data obtained from 700 mental health patients at The Fountain House Mental Health Institute in Pakistan. We have used this data to train a machine learning classifier capable of distinguishing between Psychotic and Neurotic disorders. Psychotic disorders are a group of mental health conditions characterized by a loss of touch with reality whereas neurotic disorders are a group of mental health conditions characterized by excessive worry, anxiety, or stress that does not involve a loss of touch with reality. Our model achieved an overall accuracy score of 73%, indicating successful prediction of the correct diagnosis in 73 out of 100 pipeline tests. While these results may not seem significant, an increase in data points would surely allow for further improvements in these results and the overall solution we propose.

Keywords:

Early detection of Autism

Maha Amer, Alina Baig, Minahil Amer, Ayesha Khan*

*Department of Computer Science, Forman Christian College and University, Zahoor Elahi
Road Gulberg III, Lahore, Pakistan*

Presenter: 231486203@formanite.fccollege.edu.pk

Correspondence: akhan@fccollege.edu.pk

ABSTRACT

Autism is a neurobiological based illness that alters how communication in words and body language, social interactions, adaptability of behavior, and development of interests. Although early ASD discovery can help with diagnosis and the implementation of appropriate measures for effect mitigation, this condition cannot be treated. ASD are a group of disorders which include Asperger's disorder, Autistic disorder, Childhood Disintegrative Disorder, Rett's Disorder and Pervasive Developmental Disorder. ASD can be identified earlier with the help of various artificial intelligence (AI) tools than with conventional methodologies. This study's objective was to identify ASD more precisely by proposing a machine learning model that examines ASD data at various age levels. An earlier autism diagnosis may result in better access to intervention methods and better developmental outcomes. Our model is based on scikit-learn (open-source machine learning library) and it uses seven different models Random Forest (RF), Support Vector Machine (SVM), Decision Tsharee (DT), Naives Bayes (NB), Stochastic Gradient Descent (SGD), K- Nearest Neighbor (KNN), Decision Tree (DT) and Logistic Regression (LR) to analyze the result whether child has ASD or not. The model was trained on Autism Spectrum Disorder Screening Data for toddler's 2022 dataset which consists of 507 records and Pakistan dataset for toddlers 2023 which consists of 116 records. We evaluated the performance of our models by creating a test dataset and compared its results with psychologists and machine learning models. Our results show that machine learning models have a potential to increase effectiveness and precision in detection of ASD and assist the healthcare professionals in screening ASD.

Keywords:

Real time Weed Classification

Ahmad Khan Barki, Aftab Arshad, Shafay Ahmed, Ayesha Khan*

*Department of Computer Science, Forman Christian College and University, Zahoor Elahi
Road Gulberg III, Lahore, Pakistan*

Presenter: 22-11271@formanite.fccollege.edu.pk

Correspondence: akhan@fccollege.edu.pk

ABSTRACT

Keywords: