



Digital Pakistan Cybersecurity Hackathon 2024



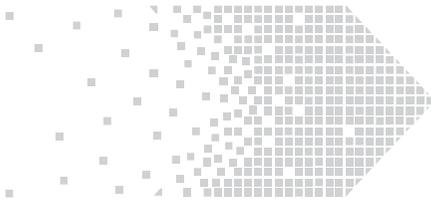


Ignite has been at the forefront of fostering cybersecurity excellence in Pakistan through immersive training workshops and thrilling cybersecurity hackathons since 2021. These initiatives have empowered IT professionals, students, and enthusiasts to sharpen their skills, demonstrate their expertise, and compete for prestigious rewards.

As Pakistan embraces a digitally transformed future, the rapid integration of information and communication technologies, enhanced global connectivity, and the growing versatility of digital services have introduced unprecedented opportunities—and challenges. With over 142 million broadband subscribers, making Pakistan the 7th largest Internet-using nation, the stakes for securing our digital assets have never been higher.

The Fourth Industrial Revolution has amplified the value of these digital assets, but it has also brought a surge in cyber threats that jeopardize the safety, trust, and confidence of individuals and organizations alike. Addressing these challenges is critical to ensuring the accelerated development of a secure, resilient, and digitally empowered Pakistan.

The Digital Pakistan Cybersecurity Hackathon 2024 embodies this mission by bringing together the brightest minds to tackle real-world cybersecurity challenges and pave the way for a safer cyberspace.



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Solicitation, Engagement & Evaluation Department
Ignite National Technology Fund

INTRODUCTION

Ignite – National Technology Fund is a leading national organization committed to fostering an innovation-driven and research commercialization ecosystem across Pakistan. It is dedicated to positioning Pakistan as a key player in the global knowledge economy by supporting startups centered on 4th industrial wave technologies and addressing critical gaps in the entrepreneurial landscape. Cybersecurity stands as a cornerstone for realizing the ambitions of the 4th Industrial Revolution.

The inception of the **Cybersecurity Hackathon** marked a transformative step in addressing Pakistan's growing need for skilled cybersecurity professionals. With the global shortage of cybersecurity experts and the rising significance of cyber resilience, Ignite's initiative has created a vibrant platform for enthusiasts, students, and professionals to sharpen their skills, tackle practical challenges, and contribute to strengthening the nation's cybersecurity framework. By promoting a culture of innovation and vigilance, this event not only provides recognition and rewards but also ensures Pakistan's preparedness for evolving cyber threats.

Over the past three years, Ignite has championed cybersecurity excellence through interactive training workshops and dynamic hackathon competitions across Pakistan. These initiatives have been instrumental for IT students, professionals, and learners, enabling them to enhance their cybersecurity capabilities, test their expertise, and compete for prestigious prizes and accolades.

The **Digital Pakistan Cybersecurity Hackathon 2024** represents a pivotal achievement in fortifying Pakistan's cybersecurity ecosystem. This event showcased the nation's commitment to nurturing local talent, facilitating hands-on learning, and fostering a resilient digital community capable of countering emerging cyber threats. The collaboration among participants, industry experts, and government stakeholders has set a strong foundation for future cybersecurity initiatives, positioning Pakistan as a proactive player in global cyber defense.

Pakistan has done exceptionally well in taking measures in the areas of Relative Strengths, Areas of Potential Growth, and placed in the Top Tier-1 (Role-Modelling) of the ITU-Global Cybersecurity Index 2024. It was all a teamwork led by Ministry of Information Technology and Telecommunications (MoITT) and thoroughly supported by all key stakeholders including federal ministries, sector regulators, industry, academia, civil society, law enforcing agencies etc. to achieve this remarkable achievement.

Building on Past Experience

Past hackathon experiences have demonstrated the effectiveness of competitions in sparking students' interest in cybersecurity. These events encourage participants to work collaboratively under pressure, fostering teamwork and problem-solving skills in a high-intensity environment. This impact was evident in the outstanding performance of Pakistani Hackathon teams at the **BLACKHAT MEA 2023 competition in Riyadh, Saudi Arabia**, where their preparation and teamwork shone on an international stage.

Expanded Scope for 2024

This year, Ignite has significantly broadened the scope of its cybersecurity program through the following initiatives:

- ▶ **Comprehensive Training Workshops:** Ignite conducted **22 hands-on training workshops across 16 cities** in Pakistan, incorporating a blended learning model. This model included LMS integration, on-spot training, and access to advanced practice platforms like "Hack The Box." To encourage continued learning, the **top five performers** from each session were awarded **HTB ProLab subscriptions** for extended practice.
- ▶ **Nationwide Awareness Campaigns:** Digital Pakistan Cybersecurity Awareness sessions were organized for the general public in collaboration with **NCERT** and the **FIA Cyber Crime Wing**. These sessions aimed to promote a basic understanding of cybersecurity threats and safe practices across diverse communities.
- ▶ **Introduction of Blue Teaming:** Expanding beyond traditional Capture the Flag (CTF) competitions, Ignite introduced a **Blue Teaming stream** alongside the **Red Teaming competitions**. These two distinct streams focused on both offensive and defensive cybersecurity skills, offering participants a more comprehensive understanding of cybersecurity dynamics. Competitions were held in **six major cities: Karachi, Lahore, Islamabad, Quetta, Peshawar, and Multan**.

CYBERSECURITY HANDS-ON TRAINING WORKSHOPS

Cybersecurity training is crucial in today's digital age due to the increasing number of cyber threats, the importance of protecting personal information, enhancing digital literacy, preventing cyberbullying, preparing students for future careers, ensuring national security, protecting educational institutions, and promoting ethical hacking.

Students need to understand the global nature of cyber threats and the importance of secure online practices. Cybersecurity training also helps students understand the legal and ethical aspects of cybersecurity, ensuring compliance with laws and regulations. By providing students with the knowledge and skills to protect themselves and others, they can contribute to the development of professionals who can actively work to secure digital systems.

Nationwide Cybersecurity hands-on training workshops being held since 2021 with the aim to improve cybersecurity readiness, protection, and incident response capabilities of the country by conducting cyber drills at the national level.

In 2024, these training workshops were conducted in 16 cities across the country, with the objective of enhancing expertise and skills of participants in cyber security. A total of 2,877 participants were trained during 22 workshops held in these locations.

- | | | | |
|-------------|------------------|--------------|-------------|
| ▶ Quetta | ▶ Multan | ▶ Lahore | ▶ Peshawar |
| ▶ Karachi | ▶ Rahim Yar Khan | ▶ Gujranwala | ▶ Haripur |
| ▶ Hyderabad | ▶ Bahawalpur | ▶ Sialkot | ▶ Mirpur |
| ▶ Sukkur | ▶ Faisalabad | ▶ Rawalpindi | ▶ Islamabad |

OUR ESTEEMED PARTNERS:





HACKTHEBOX



Additionally, professionals and the top five students from each region were invited to three advance workshops that were held in Karachi, Lahore, and Islamabad. International trainers also conducted the sessions along with local trainers.

Classroom training involved a structured learning environment with a certified instructor, where individuals learned about the concepts and principles of various areas. The hands-on labs and real-world case studies provided the practical experience in identifying and exploiting vulnerabilities. As part of the training, surprise quizzes were also used to rank the workshop's top performers and determine each student's degree of comprehension. The following categories were included in the sessions held during three days' workshop.

- ▶ Cryptography
- ▶ Networking
- ▶ Cloud
- ▶ Operating System
- ▶ Web
- ▶ Mobile
- ▶ OSINT
- ▶ SOC
- ▶ DFIR
- ▶ Social Engineering

The training also included hands-on challenges to help students learn more effectively, with a variety of easy, medium, and hard problems in each category. This was very helpful to ascertain the level of knowledge acquired by the students.

Subscription Coupons for International Trainings:

Subscription coupons for international training worth PKR 9 million were provided to top performers of the training workshops for practicing and enhancing their skills. These coupons represent an opportunity for competition winners to access high-quality international training programs related to cybersecurity. They are essentially vouchers or codes that grant the recipients access to specific online courses, workshops, or training platforms that offer in-depth knowledge and expertise in various aspects of cybersecurity. These vouchers also aid in exam preparation for globally recognized exams such as the Offensive Security Certified Professional (OSCP).

TARGETTED SEGMENTS:



Students



Educators



Parents



Elderly
People



Differently
Abled
Persons



Civil
Society



Private
Companies



Legal
Community



SMEs

CYBERSECURITY AWARENESS SESSIONS

In collaboration with the National Cyber Emergency Response Team (NCERT) and the FIA Cyber Crime Wing, a series of cybersecurity awareness sessions were conducted across 16 cities in Pakistan to educate the general public on digital safety and security.

- ▶ Quetta
- ▶ Karachi
- ▶ Hyderabad
- ▶ Sukkur
- ▶ Multan
- ▶ Rahim Yar Khan
- ▶ Bahawalpur
- ▶ Faisalabad
- ▶ Lahore
- ▶ Gujranwala
- ▶ Sialkot
- ▶ Rawalpindi
- ▶ Peshawar
- ▶ Haripur
- ▶ Mirpur
- ▶ Islamabad

These sessions aimed to build a resilient digital ecosystem by equipping individuals of all ages with the knowledge to navigate technology safely and confidently. Participants received guidance on practical cybersecurity measures to protect their personal and professional digital lives.





کون، کیا، کیسے؟

ہمیں کن سائبر حملوں کا خطرہ ہے؟

متاثرہ فرد کو کیا کرنا ہے؟

خود کو محفوظ کیسے رکھا جائے؟

سائبر خطرات کے بارے میں معلومات اور آگاہی کیلئے

فری انٹری سائبر سکیورٹی آگاہی سیشن

اورنج ہال، BUISTEMS کوئٹہ، 23 اگست 2024

#CyberSecurityForAll

رجسٹر کریں پاکستان بھر میں ہونے والے
4th Cybersecurity Hackathon
cyberhackathon.pk/Register/



یہ سیشن کن کیلئے ہے؟

- ▶ طلباء، والدین اور درس و تدریس سے جڑے افراد
- ▶ پرائیویٹ سیکٹر کمپنیاں
- ▶ مائیکرو، سمال اور میڈیم کاروبار
- ▶ سول سوسائٹی ادارے
- ▶ سرکاری ایجنسیاں



Ignite presents

CYBERSECURITY AWARENESS SESSIONS

in 16 CITIES



- QUETTA**
BUISTEMS
23 Aug 2024
- KARACHI**
NED University
30 Aug 2024
- LAHORE**
FAST - NUCES
30 Aug 2024
- HYDERABAD**
MUE T Jamshoro
3 Sep 2024
- GUJRANWALA**
GIFT University
3 Sep 2024
- SUKKUR**
IBA University
6 Sep 2024
- RAWALPINDI**
MCS-NUST,
10 Sep 2024
- BAHAWALPUR**
The Islamia University
10 Sep 2024

- RAHIM YAR KHAN**
KFUEIT University
13 Sep 2024
- ISLAMABAD**
Bahria University (BSEAS)
13 Sep 2024
- MULTAN**
Institute of Southern Punjab
18 Sep 2024
- HARIPUR**
Pak-Austria
18 Sep 2024
- SIALKOT**
CC Women University
23 Sep 2024
- FAISALABAD**
NIC-UAF
23 Sep 2024
- MIRPUR AJK**
MUST
4 Oct 2024
- PESHAWAR**
IMSclences
4 Oct 2024

Free Entry

Equip Yourself to Knock out Online / Cyber Fraud



The sessions successfully empowered participants with actionable insights, fostering a safer digital environment for all.

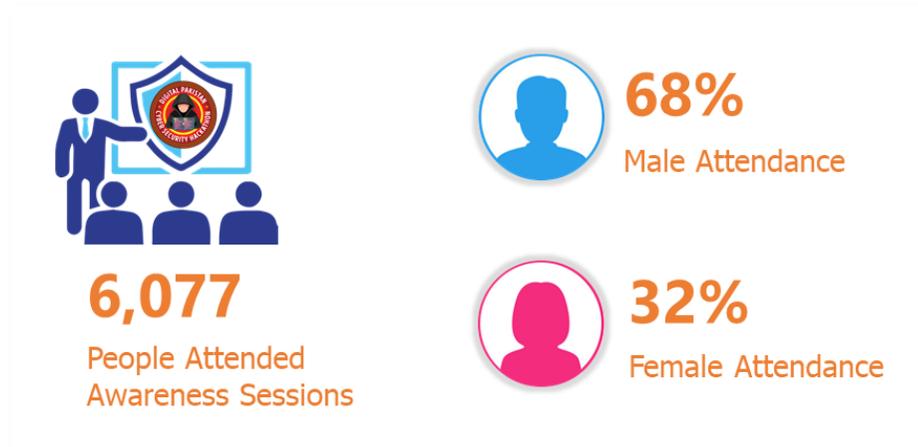
Topics covered:

▶ Cyber Safety for Everyone

- ▶ Password Management
- ▶ Operating Systems and Software Updates
- ▶ Antivirus & Anti-Malware Protection
- ▶ Smart Phones, WiFi & App Security
- ▶ Stay Secure Against Phishing
- ▶ Strengthening Social Media Fortifications
- ▶ Data Backup & Recovery
- ▶ Understanding Secure Online Transactions
- ▶ Identifying Potential Job Scams
- ▶ Guarding Citizens Against Cyber Threats

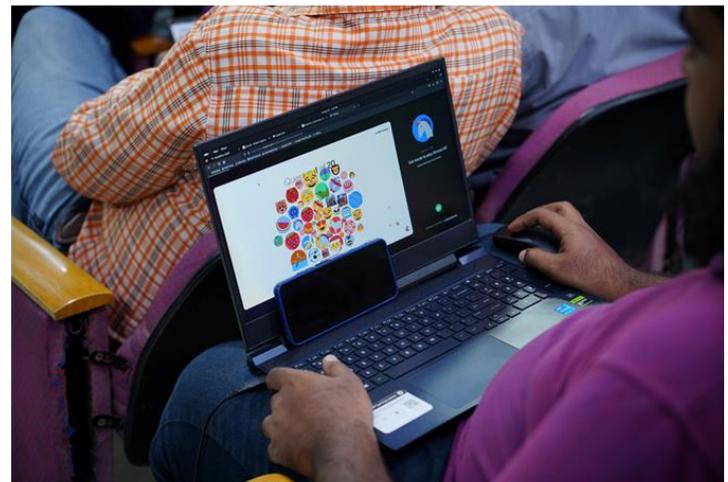
▶ Cyber Crime

- ▶ Categories of Cybercrime
- ▶ Evolution of Cyber Laws in Pakistan
- ▶ Prevention of Electronic Crimes Act 2016
- ▶ Cybercrime Prevention
- ▶ Reporting Cyber Crime



PARTNERS:





CAPACITY BUILDING OF GOVERNMENT EMPLOYEES

To bolster the cybersecurity capacity of government institutions, a three-day hands-on cybersecurity training workshop was held in Islamabad exclusively for government officials. The program provided in-depth training to enhance participants' cybersecurity proficiency and ensure the security of Digital Pakistan.

With support from the Ministry of IT and Telecom (MoITT), Ignite invited officials from various government organizations and attached departments to attend the workshop.

Topics covered:

- ▶ Social Engineering & its Types
- ▶ Governance, Risk & Compliance (Security Controls & their Implementation Strategies)
- ▶ Network Traffic Analysis
- ▶ Pen Test Methodologies, Frameworks & Red Teaming Operations
- ▶ IT Security – (Threat Landscape & Attack Types/Classification, Mitre ATT&CK)
- ▶ DFIR & Incident Response Framework
- ▶ Information Gathering Techniques/OSINT
- ▶ Operating Systems & their Security Review (CIS Benchmarks)
- ▶ Web Security Essentials (Web Vulnerabilities & relevant Attack Types)
- ▶ Cloud Security
- ▶ Detecting Cyber Attack (SIEM & SOC)
- ▶ Malware Analysis - Techniques & Tools

The workshop also featured an invited session titled “Cybersecurity Guidelines for the Government Sector” delivered by the Director of Government Relations Committee, National Computer Emergency Readiness Team (PK-CERT).

A comprehensive cyber drill titled “Attack Simulation & Detection/Response in Real World Scenarios” was conducted to expose participants to practical challenges and prepare them to effectively mitigate emerging cyber threats.

The workshop proved to be a significant step in equipping government employees with the skills needed to safeguard sensitive information and improve national cybersecurity resilience.

Certificate Distribution



REGIONAL COMPETITION

This year, the regional competition expanded beyond the traditional **Capture The Flag (CTF)** format to include **Blue Teaming**, a proactive and strategic approach to safeguarding digital infrastructures. Blue teams focus on identifying vulnerabilities, mitigating risks, anticipating threats, and continuously strengthening an organization's security posture.

The competition attracted hundreds of participants, who engaged in both CTF and Blue Teaming challenges to demonstrate their expertise. Real-life cyberattack scenarios, meticulously designed by cybersecurity specialists, pushed participants to their limits, testing their skills under high-pressure conditions. Each stage introduced varying levels of complexity, adding excitement and intensity to the contest.

Participation and Format:

- ▶ A total of 1,196 teams registered for the regional rounds held in six cities: Karachi, Lahore, Islamabad, Quetta, Peshawar, and Multan.
- ▶ The competition spanned two days:
 - ▶ Day-1: Capture The Flag (CTF) competition
 - ▶ Day-2: Blue Teaming competition

Participants tackled challenging cybersecurity tasks, showcasing exceptional problem-solving abilities, strategic thinking, and teamwork. The dynamic and fast-paced nature of the competition kept both participants and spectators on edge, highlighting the immense potential of Pakistan's technical talent.

Recognitions and Advancements:

At the conclusion of each regional round, certificates were awarded to the **winners and runner-ups** in both the CTF and Blue Teaming categories, celebrating their achievements and motivating young cybersecurity enthusiasts. The **top-performing teams** earned the

REGIONAL WINNERS:

CTF

BLUE TEAM



KARACHI

1. \$udoers
2. m4lware
3. Sh4d0ws

1. m4lware
2. \$udoers
3. revolt



ISLAMABAD

1. AirOverflow
2. Griffyns
3. AirXeros

1. AirOverflow
2. Griffyns
3. deathstrik3



MULTAN

1. Beluga?
2. Safe Harbours
3. Brokers

1. Beluga?
2. Safe Harbours
3. Brokers

opportunity to compete in the final round in Islamabad, where the stakes—and the excitement—reached their peak.

The regional competitions not only provided a platform to showcase skills but also fostered a spirit of innovation, collaboration, and resilience among participants, reflecting the promising future of Pakistan's cybersecurity landscape.

CTF

BLUE TEAM



PESHAWAR

1. PsychoTherapist
2. Censored
3. Cyber_blitz

1. PsychoTherapist
2. Vulsight
3. Censored



QUETTA

1. Team Secret
2. Hundred Thieves
3. Windows Update 99% :p

1. Hundred Thieves
2. Windows Update 99% :p
3. 404 team not found



LAHORE

1. Lexicans
2. Localhost
3. Kernelcide

1. Localhost
2. Cic1d133o1
3. Security Reapers







BLACK HAT MEA 2024

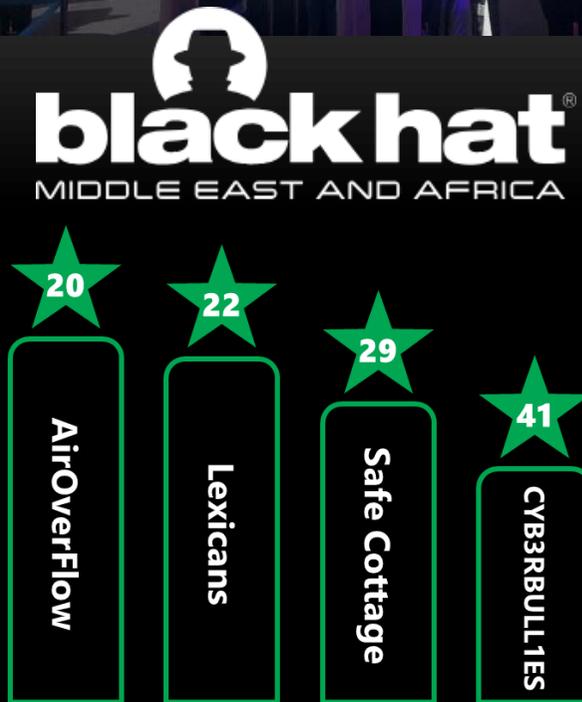
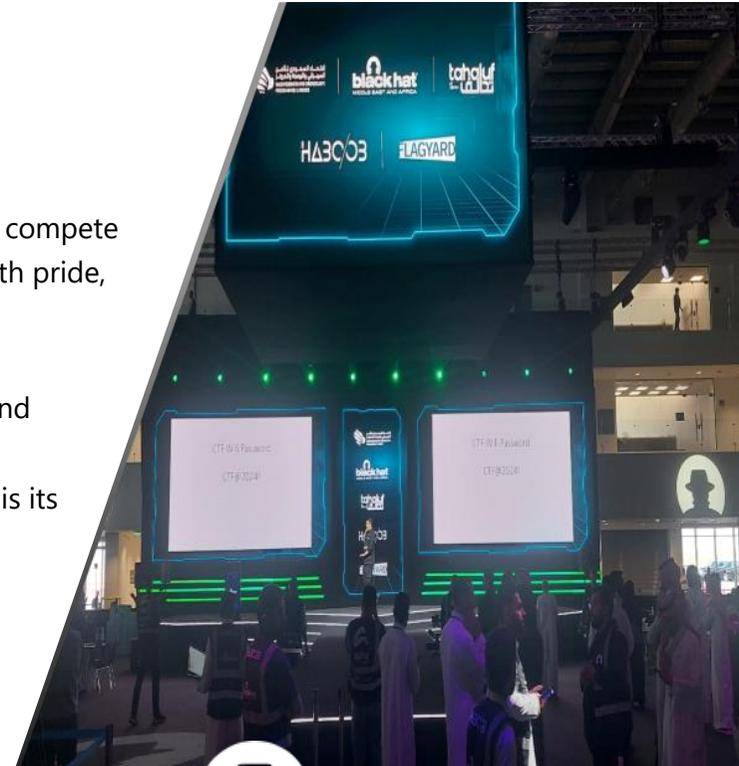
Six exceptional teams from Ignite’s Cybersecurity Hackathons earned the prestigious opportunity to compete at the **Black Hat International Competition** held in Riyadh, Saudi Arabia. Representing Pakistan with pride, these talented teams showcased their expertise, resilience, and teamwork on the global stage.

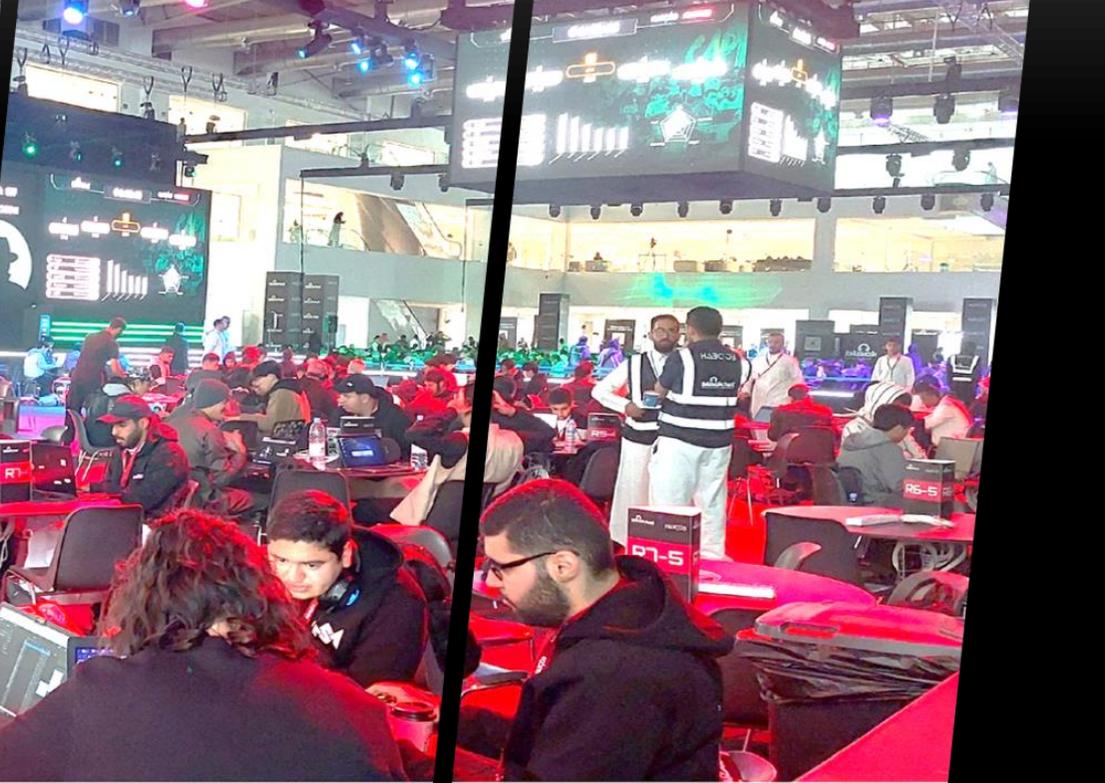
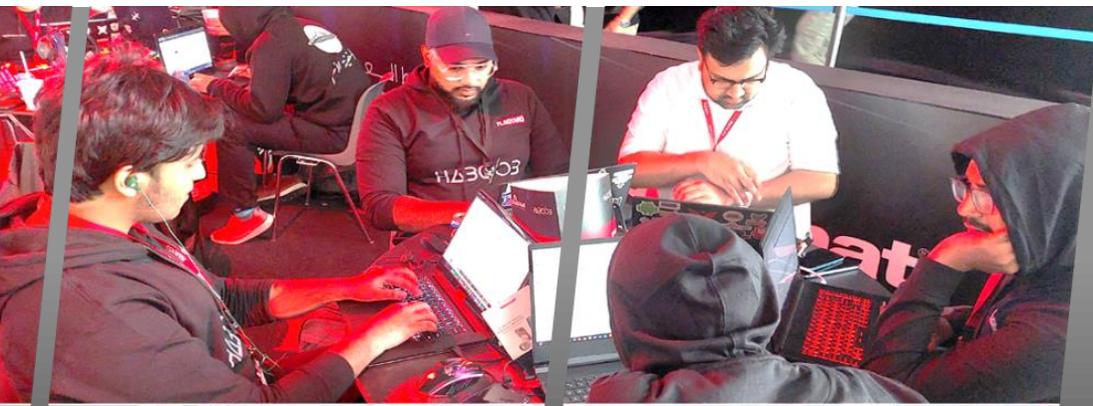
Black Hat Middle East and Africa (MEA) is one of the world’s premier cybersecurity conferences and exhibitions. Held in Riyadh, KSA, it brings together cybersecurity professionals, cutting-edge technologies, solution providers, and decision-makers from around the globe. The event's highlight is its renowned **Capture The Flag (CTF) Tournament**, featuring over **1,000 participants** who advanced through rigorous qualification stages. The tournament, structured as a jeopardy-style competition, tested participants across diverse categories.

The atmosphere at Black Hat MEA 2024 was electric—buzzing with excitement, innovation, and high-stakes competition. Teams faced intricate challenges requiring focus, collaboration, and rapid problem-solving, creating an environment that epitomized the cutting edge of global cybersecurity excellence.

Representing Pakistan with excellence and determination, **Team AirOverFlow**, **Team CYB3RBULL1ES**, **Team Safe Cottage**, and **Team Lexicans** stood out among their international peers. These teams exemplified the vision of a **Digital Pakistan**, showcasing the nation’s growing prowess in cybersecurity. Competing against over **250 international teams**, they demonstrated remarkable skill and persistence, ultimately securing ranks among the **top 50 teams**.

Their journey was nothing short of inspiring—from tackling intense CTF challenges to building vibrant camaraderie with other global participants. These teams not only proved Pakistan’s capability to excel on the global cybersecurity stage but also highlighted the immense potential of our nation’s technical talent.





THE GRAND FINALE

The Grand Finale of the Digital Pakistan Cybersecurity Hackathon 2024 was held in Islamabad, bringing together the top-performing teams from the six regional cybersecurity hackathons. These finalists showcased their innovation, technical prowess, and teamwork as they vied for the prestigious title of **National Champions**.

The competition spanned two action-packed days. The finalists tackled advanced cybersecurity tasks across a wide range of categories, including: Blockchain, Cryptography, Digital Forensics, Machine Learning, Programming, PWN, Reverse Engineering, Web, Android, and OT.

With every challenge, the teams pushed their limits, combining technical expertise with strategic thinking to solve complex problems under time pressure. Their decisive moves and collaborative efforts created an electrifying atmosphere, keeping the audience on edge and showcasing the exceptional potential of Pakistan's technical talent.

The event concluded with the announcement of winners in both the **CTF** and **Blue Teaming** categories, celebrating their outstanding achievements. The grand finale not only highlighted the ingenuity and resilience of Pakistan's cybersecurity community but also reinforced the nation's commitment to fostering digital excellence and innovation.



DIGITAL PAKISTAN CYBERSECURITY HACKATHON CHAMPIONS 2024





THE AWARDS CEREMONY

The Digital Pakistan Cybersecurity Hackathon 2024 culminated in a prestigious awards ceremony held in Islamabad, marking the successful conclusion of this nationwide initiative by the Ignite National Technology Fund. The event was graced by **Ms. Shaza Fatima Khawaja**, Minister for IT & Telecom, as the **Chief Guest**, who honored the winning teams for their exceptional achievements in cybersecurity.

In her keynote address, Ms. Khawaja underscored the critical importance of cybersecurity in today's rapidly evolving digital landscape. She commended the extraordinary talent and innovation demonstrated by Pakistan's youth, emphasizing:

“Cybersecurity is the backbone of a secure digital future, and platforms like this hackathon are vital for nurturing the next generation of cybersecurity leaders.”

She also extended heartfelt appreciation to **Team Ignite** for organizing this impactful initiative, which provided a national platform for exceptional minds to shine and contribute to Pakistan's technological advancement.

The awards ceremony celebrated the winners of both the CTF/Red Teaming and Blue Teaming categories. The prize distribution was as follows:

CTF/Red Teaming Winners:

- ▶ Winner: Team AirOverflow – PKR 1.5 million
- ▶ 1st Runner-Up: Team Psychotherapist – PKR 1 million
- ▶ 2nd Runner-Up: Team Sudoers – PKR 0.75 million

Blue Teaming Winners:

- ▶ Winner: Team AirOverflow – PKR 1.5 million
- ▶ 1st Runner-Up: Team M4lware – PKR 1 million
- ▶ 2nd Runner-Up: Team Revolt – PKR 0.75 million

In addition to the monetary rewards, the victorious teams were awarded sponsorships for international competitions and training coupons for advanced cybersecurity programs.

The awards ceremony was a fitting conclusion to a highly successful event, celebrating the skill, creativity, and determination of Pakistan's brightest cybersecurity talent while reinforcing the nation's commitment to building a secure digital future.

Winning Teams Receiving Awards from Minister for IT & Telecom:





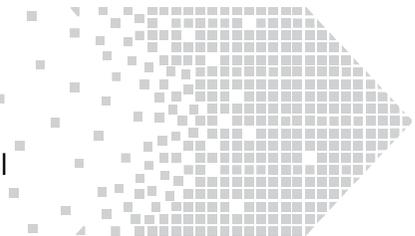
SUMMARY

As the Digital Pakistan Cybersecurity Hackathon 2024 draws to a close, we reflect on the incredible journey of innovation, collaboration, and skill-building that has unfolded throughout the event. This year's hackathon has once again highlighted the talent and determination of Pakistan's cybersecurity community, with participants demonstrating their expertise across a broad spectrum of cybersecurity domains.

The outstanding participants showcased their abilities in fields ranging from digital forensics and cryptography to web security and machine learning. Their enthusiasm for solving real-world cybersecurity challenges, as well as their resilience in the face of complex problems, serves as an inspiring reminder of the critical role that skilled cybersecurity professionals play in protecting our digital future.

In addition to the competition itself, this year's hackathon placed a strong emphasis on cybersecurity awareness, engaging the wider public through nationwide awareness sessions. These sessions, conducted in collaboration with NCERT and FIA's Cyber Crime Wing, reached communities in 16 cities, empowering individuals of all ages with essential knowledge about cybersecurity best practices. By educating the public about the risks and responsibilities of the digital age, we are fostering a culture of digital safety and security that extends beyond the competition itself.

The success of the Digital Pakistan Cybersecurity Hackathon 2024 is a testament to the dedication of our participants, the expertise of our mentors, and the unwavering support of our partners. As we look to the future, we remain steadfast in our commitment to strengthening Pakistan's cybersecurity ecosystem, encouraging innovation, and providing the next generation with the tools they need to protect our digital world. Together, we are building a secure, resilient, and thriving digital future for Pakistan and beyond.





Powered By:



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