

Insight:

Here we are glad to address about one of the best and successful virtual hackathon “Odommo’50-SUPER Techfest” hosted by SUPER Project and Organized by Robotics Club of BRAC University in association with European Union Civil Protection and Humanitarian Aid, United Purpose, Actionaid, DCCI and World Vision and also with the enormous moderation of United Purpose. The event secured the best milestone in terms of seeking out the creative minds of Bangladesh amongst the university students for a tremendous cause which was focused on disaster management. Students from different universities all around Bangladesh showcased their perceptions for solving the problems stated in the hackathon which were building fire safety system if a fire accident occurs, taking safety measurements during an earthquake along with solving water logging problems also the organizers of the event included 2 more statements which were bringing out best solutions for air pollution and working on the mental health of people. Around 130 participants from 33 teams of different universities joined the event with their sustainable solutions in order to solve these problems. This initiative became a great success with the organizing power of the Robotics Club of BRAC University along with the continuous guideline of Dr. Md. Khalilur Rhaman, advisor of Robotics Club of BRAC University.

Timeline:

Odommo'50 Techfest started its official journey with a very innovative hyped video on 28 November 2021. Though we have to extend the event timeline because of the unwanted situation of Covid'19 new variation Omicron as well as the students of BRACU had to sit for their final examination on January 2. After a hectic final examination, breaking the gap from 26 December, we started the event again fully on 14 January 2022.

Registration Timeline:

The dates of the events continued as follows-

- 26 January- Registration started
- 13 February- Extension of registration
- 16 February- Opening Ceremony
- 17,18,19 & 20 February- 72 Hours long Hackathon
- 26 February- Closing Ceremony

The registration of Odommo'50 Techfest started on- 26 January and continued till 10 February 2022. We had to extend the registration and abstract submission till February 13 because of the overwhelming responses from the participants for an extension. In total 30 papers of 30 teams were evaluated under strict moderation and observation of our respected advisor of ROBU, Dr. Md. Khalilur Rahman Sir and the United Purpose Team along with the organizing team. The opening ceremony of this super exciting techfest was on 16 February. This 72 hours long hackathon took place on 17,18,19 and 20 February with enormous participation of the technophiles. We successfully ended the ceremony on 26 February and came up with some real-time solutions for our very talented participants.

Format of hackathon:

A total number of 33 teams registered at the event with around 120 plus participants. In total 30 teams submitted the abstract paper. Among them, we initially selected the top 15 teams by our honorable judges based on their initial abstract paper to verify the viability and relevancy of the given topics regarding disaster management.

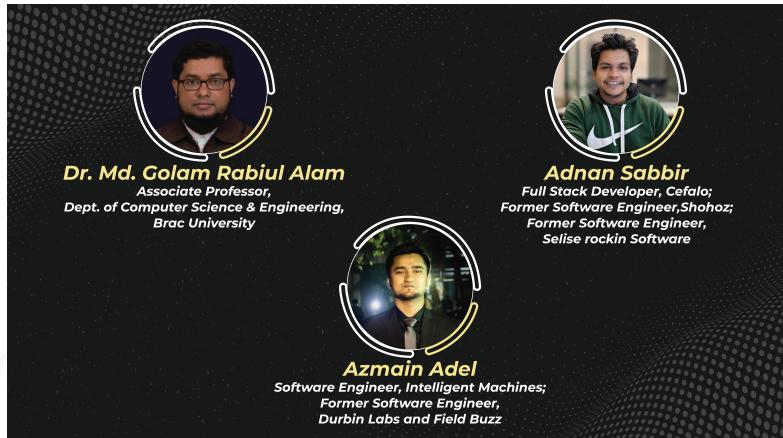
Judging Scheme:

The initial judgment was done by the United purpose along with Dr. Khalilur Rahman sir. They selected the final 15 teams from the total teams. We divided these top 15 teams into three judging panels and each panel contained three prestigious judges and then they selected the top 6 teams. In the final round, our distinguished judges were Rudmeela Nawsheen ma'am, Dr. Md Khalilur Rahman sir and Dr. Md Kaykobad sir. Under their supervision on judging, we finally got our top 3 teams. For evaluation, the judges focused their marking criteria on solution, technical details, sustainability, invention and plagiarism.

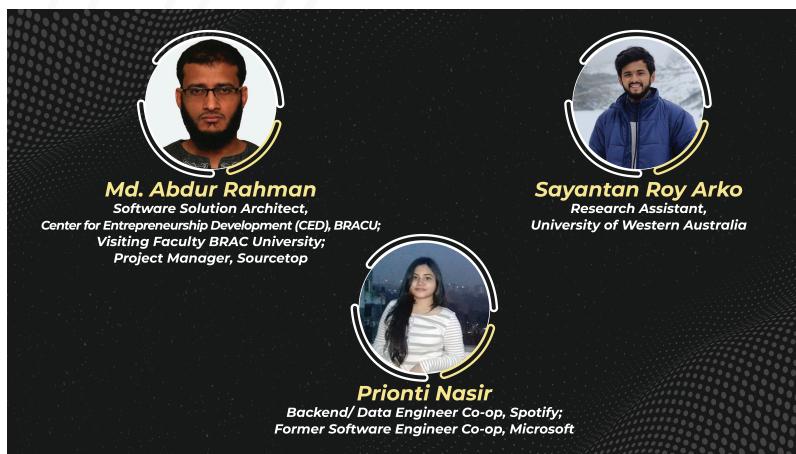
We tried to reach the highest number of people to make this event notable. Odommo'50 Techfest was one of the exoteric events of Facebook because of the immense branding by sharing to all the intra-university and inter-university groups of Bangladesh. The event has been reached through the collaboration of all other Facebook groups of BRAC University alongside the affiliation of all the top-ranked University clubs. We also hired campus ambassadors from almost all the famous universities. The consequence was the highest number of outreach beyond imagination which impacts the youths to take part in this kind of events.

Judging Lineup:

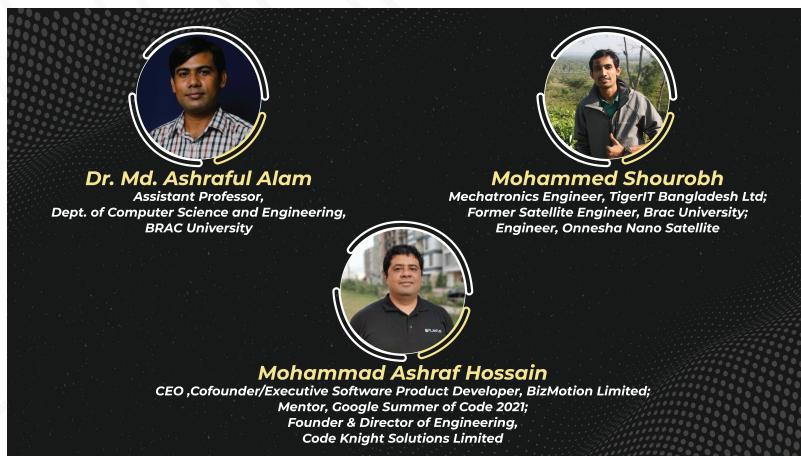
Panel-01:



Panel-02:



Panel-03:



Campaigns:

We selected campus ambassadors from all the top-ranked universities of Bangladesh. They worked as representatives of their university to enrich this event all over the country. Their spontaneous participation helped to reach the highest goal to make this event successful.

We have also affiliated with the topmost active clubs of other universities. They are the main bridge to spread all the event-related updates to their university. They also collaborated by playing a huge role in finding campus ambassadors.

The relevant posters and videos for the outreach of the event have been shared to all the Facebook groups of university levels to ensure the highest amount of reach with an immense contribution by the campus ambassadors and affiliated clubs who actively worked for the event. Among them, Buet, Sust, Kuet contributed actively to ensure the highest amount of participation. The most astonishing part is the event not only reached over the country but also in the foreign countries. As a result, An Australian university student also participated in this event.

Total outreach of the event:

It is overwhelming that our event has a total facebook outreach of 28,473 people and around 905 people responded in our event.

Around 5300 people were invited in the event, 596 people gave interested and 309 people gave going. Division wise Dhaka has 56% outreach, Chittagong has 6%, Khulna has 4%, Rajshahi has 3% and Mirpur has 2% outreach. From the live of the workshop, we got a huge outreach which is around 5,703 people with an engagement of 1283 people. In the opening ceremony we got an outreach of around 6,044 people and engagement of 1996 people.

Around 3920 people were reached by the live of the Hackathon with an engagement of 1378 people. In the closing ceremony, we had an outreach of total 6773 people with an engagement of 1722 people.

Format of hackathon:

Hackathon Workshop- 13 February, 7:30 PM, link: <https://fb.watch/bzvLEJtIeB/>
Opening Ceremony- 16 February, 8:00 PM, link: https://fb.watch/bzvRDeVtX_/
Final Judgement- 22 February, 8:00 PM, link:<https://fb.watch/bzvYU-cI5u/>
Closing Ceremony-26 February,8:00 PM, link:<https://fb.watch/bzw1oYoVur/>

Volunteer Management:

The Robotics Club of BRAC University consists of 8 departments with a vast workforce. Each department has a remarkable contribution to make this national event noteworthy. The volunteers had to pass sleepless nights to uphold an organized eye-popping event. Strategic Planning and Finance & Marketing Department were the event Incharge of the event. Along with them, all other six departments worked whole day and night to make a successful event. Starting from making proper planning to launching the 72 hours long hackathon, they were the superheroes to come up with instant solutions. Event Management, Arts & Design, Research & Project Management were the booster department to give all the continuous support by managing the judge's panel, affiliating with all the clubs and campus ambassadors, and hosting the whole event. The Human Resources Department was the main bridge to collaborate with others. They were always ready to provide updated information and timeline to the judges, participants, and all other relevant personnel. IT and Editorial and Publication Departments are the backend fighters of this event. They provided mesmerizing videos, posters, and all other eye-catching content even at the last hour for the consummate national event Odommo'50 Techfest.

Guest speakers for the event:

The guest speakers for our event were, **Dr. Mohammad Kaykobad** Distinguished Professor, Department of CSE, BRAC University. Dr. **MD. Khalilur Rhaman**, Associate Professor, Department of CSE, BRAC University. And **Rudmeela Nawsheen**, Founder and CEO ConfigVR, ConfigRbot & ConfigRapps, San Jose, California, USA Director of Ranks ITT, Ranks Petroleum, Ranks Tel. Bangladesh Electrical Engineer, Software Developer & Tech Entrepreneur



Dr. MD. Khalilur Rhaman



Dr. MD. Khalilur Rhaman



Rudmeela Nawsheen

Insights of top 15 teams:

Determination : A team from BRAC University, their project was to implement a device, which is attached to the gas stove or the gas cylinder, detecting high concentrations of flammable gas in the air.

Drone Urena : A team from BRAC University, came up with a novel solution.

FireFly – this is an app that will allow users to alert fire services and Medical Emergency services with the tap of a button. Aside from this, they will be connected to a swarm of drones that will fly to the given location to extinguish the fire and the firefighters will be equipped with robots that can aid the extinguishing of the fire and rescue of trapped persons.

Dynamic Tetra: A team from BRAC University, their target is to check the blocked roads beforehand and inform. For this, their plan was to make a web application using google map API & collect data with our IoT based water level indicator module. They will inform our users which road is blocked due to water clogging after a certain level of water rising and which alternative ways the public should use.

Error Makers: A team from BRAC University, their team will make a system to automatically detect fire hazards and inform the local fire service as well as inform the local people by using geolocation and IoT devices and the locations will be shown on the map of the web app. images captured from IoT devices will be sent to the server to be processed and the images will be processed using ai and if a fire is detected then necessary steps will be taken automatically.

MemoryLeak: A team from BUET, came up with an idea to minimize the loss by Fire accident. So, keeping everything in mind they propose “PROJECT Domkol - Integrated and cross service solution to fire”.

Pythonic Lava: A team from BRAC University talking about Air Pollution, and their solution to the problem is a web platform where people can have 3 types of services, 1. people can see the pollution level of a particular area, 2. They will get awareness about the issue and be encouraged to engage in activities like tree plantation 3. People can raise their voice to help city corporations locate polluted areas and so they provide solutions.

SIB: A team from SUST came up with an idea about Fire Accidents. Their solution for the problem is they will make an android app to prevent fire accident effects as much as possible.

Team 3rr0r404: A team from BRAC University talked about a fire accident. To assist in all of the aforementioned instances, they suggest designing a firefighting drone capable of resolving all of these issues. The drone makes it possible to suppress fires quickly and safely. It can carry 3 fire extinguishing balls, and a water capillary will be attached to the drone, allowing us to spray water by linking it to the base station.

Team AHANOS: A team From CUET talked about a Fire-resistant infrastructure project, which was approached, focusing on removing the barriers to the wellbeing of the community. Their aim is to build an integrated tool, named Fire Alert & Detection Tool (FADT) , which will collect analogue data from specific areas and respond via buzzer, SMS, and red light to protect any individual from fire accidents. The objective is to make infrastructures (indoors) fire-resistant and to develop a real-time alert system and the stakeholders are individual tool owners & fire service centers.

Team CUET_Techtors: A team from CUET talked about the prevention of accidents because of gas leaks. We propose an automatic gas explosion prevention and alert system. Their system will detect the gas like methane, LPG, carbon mono-oxide, sound a fire alarm and automatically turn on the exhaust fan of the room to emit the gas and also send a message and a call to the phone number of the owner.

Team DM: A team from BRAC University came up with an idea about to minimize the lose in earthquake. They have devised an attractive system utilizing low-cost components made locally that will not only detect an earthquake but also unlock and open all emergency doors simultaneously, protecting the structure while methodically eliminating electricity. This procedure is very cheap and effective in saving lives.

Team Omega: A team from BUBT came up with a solution to prevent fire accidents based on computer vision, deep learning and AI.

Team Phoenix: A team from SUST came up with their webapp, Health Hub works as an ideal solution to mitigate these issues. Through Health Hub people of all walks of life in our society can make sure they

are aware about maintaining proper health and receive proper healthcare at any place and time. In our web app we will offer people to seek professional help from qualified doctors and specialists. From emergency services to regular diet routines and doctors' advice, our web app will act as a complete healthcare package.

Tech Phantom : A team from BRAC University, their aim at establishing an effective technology platform to encounter fire accidents across the country, through which we'll be able to minimize the casualties during any such incident. This platform will be an automatic fire alarm device allowing for real-time data analysis, tracking, and monitoring which can be used by individuals, corporations, or industrial establishments.

Xero_extended: A team from BRAC University talked about Earthquake. They have developed an IoT based embedded hardware that can predict earthquakes and notify the users 4-5 minutes earlier before the major earthquake. We are also making a central one stop solution where we can track the tectonic plate movement. Users can integrate our proposed hardware system where it tracks earthquakes and automatically switches off gas and water connection to prevent post-earthquake accidental issues like fire accidents.

Abstract link:

[https://drive.google.com/drive/folders/1X6MQjwXLLl-6EnVQLbg5K8P8Qa6MQIg8?
usp=sharing&authuser=2](https://drive.google.com/drive/folders/1X6MQjwXLLl-6EnVQLbg5K8P8Qa6MQIg8?usp=sharing&authuser=2)

Top 6 team general insight :

Determination :

A BRAC University team consists of 4 members. They will implement a device, which is attached to the gas stove or the gas cylinder, detecting high concentrations of flammable gas in the air. If a high concentration of gas is detected, the gas valve attached to the cylinder will be automatically turned off and will also alert the user about the possibility of a fire incident. Moreover, if an unusually high amount of gas is detected, the device will immediately notify the closest fire service stations about the possibility of a fire accident occurring at the address where a high concentration was detected. If smoke or rising temperature is detected by the sensors, all the nearest fire service stations and the nearby medical centers will be notified so that emergency services can be deployed without any delay.

Drone Urena :

A team from BRAC University and North South University consists of 4 members. They came up with a novel solution. FireFly – this is an app that will allow users to alert fire services and Medical Emergency services with the tap of a button. Aside from this, they will be connected to a swarm of drones that will fly to the given location to extinguish the fire and the firefighters will be equipped with robots that can aid the extinguishing of the fire and rescue of trapped persons.

Dynamic Tetra :

A BRAC University team consists of 3 members. Their target is to check the blocked roads beforehand and inform them. For this, we will make a web application using google map API & collect data with our IoT based water level indicator module. We will inform our users which road is blocked due to water clogging after a certain level of water rises and which alternative ways the public should use. Additionally, we will consistently trace the water level of an area & find out where the water level is getting higher to solve the problem by working on that specific place's drainage system & inform the city corporation.

Team CUET_Techtors :

A team from CUET consists of 2 members. They came up with an unique idea to prevent accidents because of gas leaks. We propose an automatic gas explosion prevention and alert system. Our system will detect the gas like methane, LPG, carbon mono-oxide, sound a fire alarm and automatically turn on the exhaust fan of the room to emit the gas and also send a message and a call to the phone number of the owner.

Team Phoenix :

A team from SUST consists of 3 members. They come up with an innovative web app, Health Hub works as an ideal solution to mitigate these issues. Through Health Hub people of all walks of life in our society can make sure they are aware about maintaining proper health and receive proper healthcare at any place and time. In our web app we will offer people to seek professional help from qualified doctors and specialists. From emergency services to regular diet routines and doctors' advice, our web app will act as a complete healthcare package.

XERO_EXTENDED:

A team from BRAC University consists of 3 members. They have developed an IoT based embedded hardware that can predict earthquakes and notify the users 4-5 minutes earlier before the major earthquake. We are also making a central one stop solution where we can track the tectonic plate movement. Users can integrate our proposed hardware system where it tracks earthquakes and automatically switches off gas and water connection to prevent post-earthquake accidental issues like fire accidents. They have a dashboard where users can see live update tectonic plates. It shows the activity of the plates and helps the authority to take cautious before a serious pandemic or disaster.

Event outcome:

In this era of the industrial revolution, we didn't have to face the difficulty as the participants were quite concerned about the main theme. It was admitted that some of the ideas were really convenient and they also maintained the theme and the structures properly that we provided. Without any doubt, particularly every idea was innovative. This hackathon helped the juveniles to approach their ideas in collective ways and they also suggested tons of objectives using modern technologies. The purpose of this event was to get ideas from the young generation about disaster management. The outcome of the event was incredible. If some of the ideas can get the chance to be implemented by the authorities, they could really be helpful to reduce the distinct destruction of calamities.

Virtual platform made this event more feasible and hyped as students from all over the country took part. There was also a team from Australia. So, in this COVID time, it would not be possible without online platforms.

Name of 30 participants team:

1. Team cuet_techtors
2. Newbies
3. jsvsia
4. Team ISS
5. Pythonic lava
6. Project Schofield
7. NoobCoders
8. Executors_007
9. Xero Extended
10. Sheba
11. Sheikh Ayatur Rahman
12. Team noobs
13. Soul Spartans
14. Drone Urena
15. Team AHANOS
16. Akatsuki
17. Determination
18. Let there be light
19. Project_Solo18
20. SIB
21. Team DM
22. The Pseudo Bug
23. Code Poiesis
24. Dynamic Tetra
25. Team_Barca
26. Error Makers
27. Phoenix
28. Team 3rr0r404
29. MemoryLeak
30. Team-Omega
31. Data Strangers
32. tech phantom