IIT BHILAI INNOVATION AND TECHNOLOGY FOUNDATION (IBITF)

# Grand Challenge Competition for Scouting Innovations in the FinTech Area

IBITF, IIT BHILAI, GEC CAMPUS, OLD DHAMTARI ROAD,
SEJBAHAR, CHHATTISGARH (492015)

ABOUT

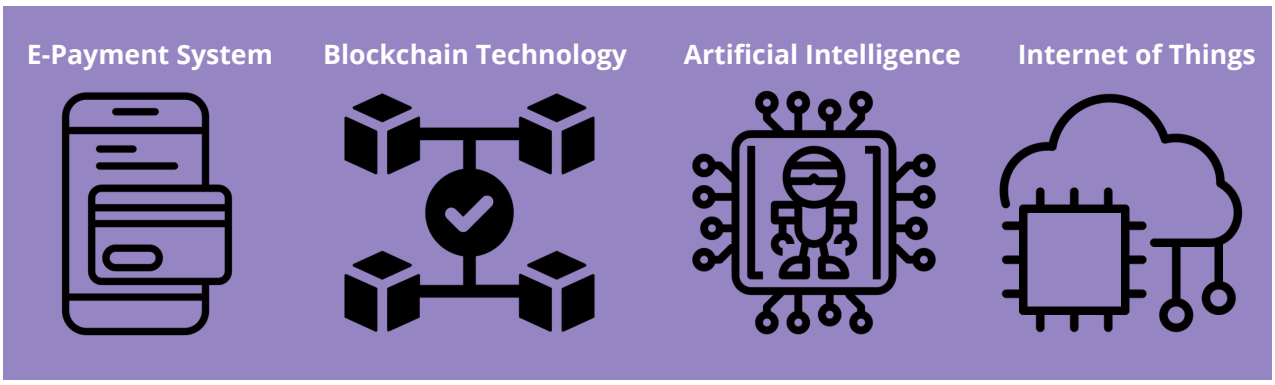
# IBITF

The DST, under its National Mission on Interdisciplinary Cyber-Physical Systems (NM-ICPS), has funded IIT Bhilai to host the TIH for the FinTech domain. The TIH at IIT Bhilai is one of the 25 hubs set up under the NM-ICPS program. IIT BHILAI INNOVATION AND TECHNOLOGY FOUNDATION (IBITF), a Section 8 Company, has been established by IIT Bhilai to host this TIH. IBITF is the nodal center for spearheading Entrepreneurship, R&D, HRD and Skill Development, and Collaboration-related activities in the area of FinTech.

An entire set of activities starting from technology development to collaboration and research is required to ensure the availability of a fertile ground for entrepreneurs to thrive. Various programs are currently operational in the TIH for the inculcation of the startup ecosystem in the FinTech domain:

1. Promotion and Acceleration of Young and Aspiring technology entrepreneurs (PRAYAS)
2. Entrepreneur in Residence (EIR)
3. Start-up Incubation

But along with implementing new fintech ideas/innovations to democratize financial services further, existing problems in this domain need to be addressed through the application of cyber-physical systems. Thus, IBITF is planning to host a GCC (Grand Challenge/Competition) for scouting innovations focusing on Fintech solutions primarily in these four thematic areas:



OVERVIEW

# Grand Challenge/Competition

GCC is a pre-incubation activity targeted mainly to discover innovative solutions for fintech-related problems. IBITF wishes to invite individuals from different regions with innovative solutions for solving issues and challenges (particularly in the Indian context) in one or more of the four thematic areas of financial technologies designated to the organization. Entrepreneurs need strong support and an advisory system in order to turn their start-up ideas into valuable businesses. As a part of the activities at IBITF, one of the ambitions is to establish a strong support system for entrepreneurship and start-ups in the Fintech arena.

The Identification of problem areas is what differentiates the GCC from other hackathons or challenges conducted by educational institutions. IBITF, in consultation with relevant government departments, has been able to determine a few real-world problem statements in the specified Fintech domain(s), which, if resolved, would greatly benefit a large population or solve a major bottleneck by augmenting or replacing the traditional functioning of the financial sectors,

Mentioned below is the list of departments that submitted the problem statements for the first GCC:

1. National Payments Corporation of India (NPCI)
2. National Informatics Centre, Chhattisgarh State Centre

A list of approved problem statements is enclosed with this proposal for reference.

DETAILS

# Grand Challenge/Competition

Through this challenge, IBITF envisions identifying and nurturing innovative ideas for addressing the specified fintech problems through a tech-enabled solution. If the idea provides a solution that solves the specified problem effectively and efficiently, IBITF and the concerned government department shall jointly provide structured funding for the application of these ideas as startups and jointly mentor the teams.

**Eligibility Criteria**

1. The competition is open only to bona fide students of educational institutes of repute (Centrally Funded Technical Institutions (CFTI)/NIRF ranking below 100) of the course B.E./B. Tech (3rd and 4th Year) and M.Tech (1st year).
2. Students shall apply individually or in groups, with a maximum of three students per group.
3. Only those proposals that are duly signed and approved by the Director/Dean(R&D)/Head of the Institution would be accepted.
4. All the proposals should be submitted for financial support ONLINE MODE ONLY. **A copy of the same should be emailed to tih@iitbhilai.ac.in**

**Evaluation Process and Tentative Dates**

The Challenge would be implemented in multiple phases and each phase would maintain a set of pre-defined criteria for selection. Here are the six phases through which the identification of valuable innovations and ideas could be made feasible.

**Phase I -** Go Live
Accept Applications
Applications open - June 27, 2022
The last date for submission of applications would be July 31, 2022

**Phase II -** Internal shortlisting by the IBITF team and the result announcement for expert committee review (Phase III) - (15 days) - by August 15, 2022

**(Phase III)** - Evaluation of shortlisted proposals by the expert committee (15 days) and the result announcement for initial Presentation (Phase IV)
August 31, 2022.

DETAILS

# Grand Challenge/Competition

**Phase IV -** Initial Online/offline presentations of selected proposals before the expert committee and result announcement for the final presentation (Phase V) (15 days) - by September 15, 2022

**Phase V -** Demonstration of POCs by selected teams (offline only) and announcement of winners (top 3) (30 days) - by November 2022

**Venue**

All internal or expert committee reviews, offline presentations, and prize distributions will be conducted at - IIT-Bhilai, GEC Campus, Old Dhamatari Rd, Sejbahar, Chhattisgarh

**Patents and Intellectual Property Rights**

- Innovative Products being developed should not have violated/ breached/ copied any product already launched and/or copyrighted or patented.
- For the product to be developed as part of the Grand Challenge, if any IPR/Patent is being used, contesting entity must possess the legitimate rights to use the IPR/Patents.
- If any IPR/Copyright/Patent is filed during/post-completion of the grand challenge, its rights would be jointly shared by the startup/student and the concerned government department that submitted the problem statement for the GCC and IBITF
- IBITF would also share the IPR/Copyright/Patent as per its startup policy,
- Post-signing the agreement with the student/startup (as per the startup policy of IBITF), IBITF would reserve the right to allow commercial applications of the IPR/Copyright/Patent.

**Non Disclosure Agreement**

The selected teams, after shortlisting would need to sign an NDA with the user organizations for getting access to the test data sets/information/other details shared by the user organizations.

PRIZES AND EXPENSES

# Grand Challenge/Competition

**Benefits to Participants**

Selected applications making it to the next phases would receive monetary prizes as detailed below. Eventually, a few selected startups would be qualified to register their product/service as a startup and receive financial assistance in the form of seed money from IIT-Bhilai. Applicants/teams that provide a very positive, effective, and efficient solution to a major bottleneck/challenge for the identified problem statements could be selected by your department and may receive work orders to implement such solutions on the ground.

**Stage1:**

If the application is shortlisted for Phase IV.
INR 9,000/application

**Stage2:**

Application is selected for the Final Presentation Round, Phase V.
Rs. 20,000/-

**Stage 3:**

Top 3 applications selected after the final presentations
3rd Prize: 50000/-
2nd Prize 75000/-
1st Prize Rs. 1,00,000/-

**Jackpot Stage:**

Winners of Stage 2 and 3 could be provided financial assistance in the form of Seed Money of up to INR 10,00,000/- (if the expert committee decides and the applicant/team is able to register a start-up and render a pilot demonstration by Dec. 2022 (IBITF startup policy is applicable).

For further clarification or queries, write to us at **tih@iitbhilai.ac.in**

*Date: 08.06.2022*

## Approved Problem Statements for the Conduction of GCC

**Problem Statements Submitted by the National Payments Corporation of India (NPCI)**

### Problem statement - 1

Imagine searching every possible website and app for the cheapest airline ticket for your upcoming trip and finally, you landed on one floating heavy discount with zero convenience fee on UPI payment, and then on the payment screen flashes that your payment has been declined. At this moment, you probably aren't thinking about the data science that determined your fate.
Embarrassed, and certain you have the funds to cover everything needed for this upcoming trip, you try your UPI payment again. Same result. After 10 minutes, you receive a text message from your bank. "Press 1 if you tried to spend 25000 on your flight ticket booking to XXX."

While perhaps cumbersome (and often embarrassing) at the moment, this fraud prevention system is saving consumers millions of dollars per month. Now NPCI Data scientists want to improve this figure, and further curb down person to merchant (P2M) frauds, while also improving the customer experience. With higher accuracy fraud detection, you can get on with your chips without the hassle.

NPCI works across a variety of AI and machine learning areas, including deep neural networks, fuzzy systems, and swarm intelligence. Seeking the best solutions for the fraud prevention industry, and now you are invited to join the challenge.
In this competition, you'll benchmark machine learning models on a challenging large-scale dataset. The data comes from NPCI real-world UPI P2M transactions and contains a wide range of features from device type to product features. You also have the opportunity to create new features to improve your results.

If successful, you'll improve the efficacy of fraudulent transaction alerts for millions of people around the world, helping hundreds of thousands of businesses reduce their

fraud loss and increase their revenue. And of course, you will save people just like you the hassle of false positives.

**Problem statement**

Detection of fraudulent transactions among transactions between persons and merchants (P2M) by machine learning models that are robust to inconsistencies and imbalance. The Metric for evaluation is a high recall value with minimum possible false positives.

**Expectations**

Discover and develop novel machine learning approaches, that are robust to inconsistencies and imbalance that can capture fraudulent transactions in the continuously changing landscape of UPI transactions, that not just have the best possible recall but also, have significantly low false positives, that'll help hundreds of thousands of businesses reduce their fraud loss and increase their revenue and of course, you will save party people just like you the hassle of false positives.

## Problem statement - 2

QR-based payments are the preferred mode of making digital payments as these are easy to generate, deploy, share and use(scanning). As QRs are extremely low-cost solutions and asset lite, their proliferation is also very high. However, QR-based payments are also a potential source of risk in the payments systems as these are easy to be replaced, copied, or tampered with.

There is a need to make enhancements in the QR-based payments to make these more secure while retaining its core strengths of being easy to generate, share, deploy, use, and keeping the cost low.

**Expectations**

- Make the QRs generation and sharing complete secure.
- Ability to identify the tampering of QR.
- The prescribed solution should not make the QR heavy so that it does not impact the transaction flow.

- The suggested solution should be created using the open-sourced tools & software. No part of the solution should contain anything proprietary.

## Problem statement - 3

In the case of financial transactions, getting the transaction confirmation is essential. This becomes very important in the case of merchant payments wherein the payer sends money, however, the merchant does not receive the confirmation or is not able to track the specific transaction, and then refuses to provide goods/services. This leads to customer disputes and grievances. Currently, standard methods such as SMS, email, payment confirmation screenshot, or in case of face-to-face payments, the payer shows their payment screen. However, these solutions are sometimes unreliable, expensive to implement, and require multiple system-level integrations. These solutions also have limitations such as the confirmation can be received by only one person (in the case of merchant transactions typically the one getting the payment confirmation and the one delivering goods are different), and the onus is on the recipient to manually check the payment confirmation leading to inefficiencies. Most importantly it leads to reconciliation issues. There are few solutions in the markets, however, they are proprietary.

There is a need to create a solution that:

- Provides instant payment confirmation to both sender and receiver.
- Provides a mechanism for the receiver (especially merchants) to reconcile previous payments.
- Are interface and channel-agnostic
- Caters to the need of all sections of users.

**Expectations**

- Create a solution that provides a payment confirmation and reconciliation mechanism for all types of digital payments.
- The solution should be interface (e.g. mobile) or channel (e.g. SMS) agnostic and should support all existing and future modes of communication.
- The solution should cater to the needs of all cross-sections of users.
- The suggested solution should be created using the open-sourced tools & software. No part of the solution should contain anything proprietary.

**Problem Statements Submitted by the National Informatics Centre, Chhattisgarh State Centre**

## Problem statement - 4

The government of India as well as the state Government launches many flagship projects from time to time for the welfare of the various sections of people residing in rural and urban areas of the state like MGNREGA, PM Awas Yojana, National Rural livelihood mission, various pensions like old-age pension, disability pension, widow pension, etc. All these schemes involve payment to the beneficiaries residing in the far-flung areas of the state. Many of these areas in rural have many challenges related to reaching the banking institutions, huge distances from the urban/semi-urban areas, road and transport facilities, and network connectivity. Due to these challenges the allotted benefits fail to reach the beneficiary within time, depriving him/her of the facilities extended by the government for the upliftment of their income/basic facilities.

Since the launch of the flagship schemes of the Government like NREGA in 2006 through which government provides minimum wages to the poor beneficiaries, many initiatives have been taken to ensure that the wages reach the beneficiary in cash within the stipulated time. Owing to the limited reach of banks/ post offices a BCM(business correspondent model) model was launched by many banks through which a designated sum was issued to a village entrepreneur, who in turn moves around his/her designated area and distributes the eligible amount in cash to the beneficiary through the micro atm attached with a biometric device or through a kiosk. Under the National Rural livelihood Mission (NRLM) scheme the Government has also enrolled women self-help groups (SHG) called ‘BC Sakhi’ to provide a livelihood to the women entrepreneurs, as well as to extend the reach of rural payments to the beneficiaries. Despite various efforts, various studies and reports show delayed payments to the beneficiaries and a concrete solution to the wage/pension payment to the rural beneficiaries remains a challenge to the Government agencies.

**Problem Statement**

Design and development of a suitable IT-based solution for the timely wage/pension payment to the rural beneficiaries, under various Government schemes.

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# Submit Proposal



## Proposal Submission

Select the Problem Statement *

Select

Name of the Team if any

Name

## Personal Details

Name*

Name of Team Leader

Name of Institution*

Name of Institution

Semester*

Semester

Branch*

Branch

Email Id*

Email

Mobile No.*

Mobile No.

Address*

Address

Add Team Members

Prior Knowledge of your team related to working in the selected problem area

Any Certification/courses undergone with respect to the Field ?

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Have you / your team members Participated in any Hackthon/Grand challenge etc..? If Yes Give Details

## Mentor/Faculty Supervisor

Name*

Name

Designation*

Designation

Institution*

Institution

Email ID*

Email ID

Mobile No.*

Mobile No.

Undertaking Form to be uploaded along with application (Please submit a single PDF containing all documents of maximum size 25MB)*

Endoresement Form

Upload the duly signed form here along with the mentor CV (attached to the form)*

Choose File No file chosen

Also submit a copy of this application form along with the undertaking form to tih@iitbhilai.ac.in

Submit form

(Your Organization's Official Letterhead Here)

Kindly take a printout and get it duly signed by your mentor and the head of the institution.

# ENDORSEMENT FORM

I _____, faculty of the department of _____ at _____(Name of the institute), hereby certify that I will mentor the mentioned student(s) participating in the FinTech Grand Challenge of IIT Bhilai Innovation and Technology Foundation (IBITF) and consent to abide by the directions of the jury and the mentors from the participating user organizations for the challenge while ensuring that the student(s) uphold the integrity and propriety of this competition.

| Team Leader Name | Semester | Course | Branch |
|---|---|---|---|
| _____ | _____ | _____ | _____ |
| Team Member (1) (If any) | Semester | Course | Branch |
| _____ | _____ | _____ | _____ |
| Team Member (2) (If any) | Semester | Course | Branch |
| _____ | _____ | _____ | _____ |

Signature and Stamp
**(Mentor)**
Name:
Designation:
Date:

It is certified that the Institute welcomes the participation of the above student(s) and mentor for the FinTech Grand Challenge of IBITF, and reaffirms that the above mentioned is/are bonafide student(s) and faculty member affiliated to our institute.

Signature and Stamp
**(Director/Dean(R&D)/Head of the Institution)**
Name:
Date: