

BLOCKCHAIN OLYMPIAD BANGLADESH

Guideline & Evaluation Scheme

For

Students Category

BCOLBD 2022

BCOLBD 2022 Guideline for Students Category

A. ELIGIBILITY

1 Individual Eligibility

- I. **Students* only:** Any individual who is a school, college or university student or a recent graduate may register as a competitor; a recent graduate is someone who was a student until 1 year ago (May 21st, 2021).
- II. **No age limits.**
- III. **Representation:** An individual may be attached to an academic institute by being enrolled in it; a recognized institution is an accredited educational institute or an institute that may grant a degree or diploma.
- IV. **Constraints:** An individual cannot participate in both student and professional category.
- V. **Returning Participation:** Previous participants are eligible to compete.

2 Team Eligibility

- I. **Team Composition:** Projects are submitted by teams of one to six eligible individuals; one participant can be part of more than one team; each team shall have a team lead, as the main contact person.
- II. **Team Uniqueness:** Each team must be unique, i.e., a team may not share more than 50% of the same composition as any other team, rounded to the lower number if the team is an odd number; team leads must be unique, i.e., one person cannot be the team lead of multiple teams.
- VI. **Constraints:** Each team can only participate in one category, either student or professional category. Each individual's role in a team must be defined and informed.
- VII. **Returning Participation:** Previous teams are eligible to compete.

B. PROJECTS

3 Project Registration & Submission

- I. **One Team, One Project:** A team can submit only one project.
- II. **Primary Finalist Evaluation:** Whitepaper deadline: Friday 13 May, 2022
- III. **Finalist team list announcement:** Saturday 21 May, 2022
- IV. **Final Submission deadlines for Teams:**
 - a. Whitepaper*, posterboard*, pitch deck as PDF* deadline: Saturday 28 May, 2022
 - b. 10-min pitch presentation video*, 10-min prototype/demo video, 1-minute introduction video deadline: Saturday 28 May, 2022

4 Project Evaluation

- I. **Evaluation Stage:** Primary evaluation will be based on whitepaper. Selected projects will be in the finals.
- II. **Grading Criteria (100%):** Each project shall be evaluated by the following three parts:
 - a. 20% Pitch Presentation (10-min limit)
 - b. 30% Whitepaper (10-page limit)
 - c. 50% Poster + Q&A Session
- III. **Prototype Grading Criteria:** Proof of concept for parts of backend and frontend.

5 Project Categories

- I. **Category:** Projects may be categorized as follows:

a. Document Authentication	e. EduTech
b. E-governance	f. HealthTech
c. FinTech	g. Supply Chain
d. Identity/Privacy	h. Other/ Miscellaneous

- II. **Prizes:**
 - a. Professor Jamilur Reza Choudhury Championship Award: Tk 2,00,000
 - b. Silver Award: Tk 1,00,000
 - c. Bronze Award: Tk 50,000
 - d. Category Awards (8): Tk 30,000
 - e. Best Prototype Award: Tk 30,000



Evaluation Scheme Student Category

1. Proposal Evaluation

EVALUATION FORMULA = $(A_i \times A_{ii} \times A_{iii}) \times \text{SUM}(B^*)$

A. MANDATORY CRITERIA

MUST PASS ALL THREE TO PROCEED!

- **i. Whitepaper (0 or 1 point):** the proposal includes a document describing all aspects of the project. The document is limited to 10 pages, excluding Appendices. The font requirements are: type- Times New Roman, size-12 pt., line spacing- single. Contents must be in English (no preference on dialect); non-native users of English may submit a reference whitepaper in another language for clarification, but if complications arise, the English version shall prevail.
- **ii. Poster board (0 or 1 point):** the proposal includes a research poster to showcase at the BCOLBD Finals, 14400×10800 pixels (36×48 inches @ 300 dpi) in landscape (“horizontal”) orientation. Posterboard content may be multilingual, but English must be present. The digital posterboard file may be in PDF format or as a shared Figma file.
- **iii. Presentation (0 or 1 point):** the proposal includes a 10-minute pitch presentation, those content may be multilingual, but English must be one of the languages. Speech must be in English, or if an exception is granted, must be subtitled in English. Presentation files will be presented in 16:9 on either Microsoft PowerPoint or Google Sheets; a PDF backup is recommended. The presentation video must be 10 minutes (600 seconds) and must be in MP4 format. Teams have to add the responsibility of each member in their 1 min intro and Presentation.



B. GRADED CRITERIA

Projects may be evaluated by a jury of academic, industry, and government experts divided by those with business expertise and technical expertise. The following is a guideline for distributing the point allocations:

CRITERIA	BUSINESS	TECHNICAL	TOTAL
i. Problem & Solution	15	15	30
ii. Market & Partners	5	5	10
iii. Competition & Risks	10	10	20
iv. Architecture & Governance	10	20	30
v. Revenue & Distribution	10	0	10
TOTAL	50	50	100

Recommended Grading Guidelines:

MAX SCORE	Inadequate	Satisfactory	Good	Very Good	Excellent
5	1	2	3	4	5
10	0-2	3-4	5-6	7-8	9-10
15	0-5	6-8	9-11	12-13	14-15
20	0-8	9-11	12-14	15-17	18-20

i. Problem & Solution (30 points total): project addresses an appropriate problem properly

- Suggested Evaluation Considerations:
 - The problem is a complex challenge that involves various parties where incentives must be provided for coordination, reconciliation, and so forth.
 - The solution must make sense to use a blockchain, rather than one that is oriented around a conventional cloud solution or database infrastructure.
- **Business (15 points):** the problem exists due to insufficient trust and the effort to build that trust is an insurmountable obstacle without the use of some technology to help coordinate and reconcile.



- **Technical (15 points):** the solution shows that blockchain can address the problem better than other technologies.

ii. Market & Partners (10 points total): project includes the appropriate collaboration properly

- Suggested Evaluation Considerations:
 - The market is the collective size of the problem in quantitative terms, which further justifies the problem and provides a basis for revenue projections and distribution plans. A market is usually measured in terms of potential revenue, potential spending, potential users, or similar data.
 - The partners are the entities that must be present for the solution to work — contestants need not have any relationship with potential partners. Typically, these are domain operators and regulators. A complete paper would describe the roles, responsibilities, and incentives of these partners.
- **Business (5 points):** the market is clearly defined in quantitative terms. The participants make sense. Their incentives can be (further) aligned with the help of blockchain technology.
- **Technical (5 points):** the partners are aligned by the right incentives to cooperate (coordination play)

iii. Competition & Risks (20 points): project is transparent about its potential vulnerabilities

- Suggested Evaluation Considerations:
 - Competition may be direct (any product or service that does the same thing), very direct (other blockchain projects), or indirect (can even be alternative processes). A complete paper may not necessarily explain why the proposed project is the best, but why it is different and therefore better.
 - Risks are all risks facing the proposed project. Usually, the biggest risks are non-cooperation or non-alignment of incentives of partners. Other risks include technical, execution, business, and other risks that may be encountered by any business plan.
- **Business (10 points):** the solution is convincingly better than others in terms of delivering value. Identifying and proposing remedies/mitigations of business risks, such as model failure, execution failure, etc.
- **Technical (10 points):** the solution is convincingly better than others in terms of performance. Identifying and proposing remedies/mitigations of technical risks, such as how the solution can be compromised.



iv. Architecture & Governance (30 points): project has appropriate design fundamentals

- Suggested Evaluation Considerations:
 - Architecture refers to the technical design of the project. Justify why a certain blockchain platform or type of blockchain is preferred. How it interacts with non-blockchain systems, especially legacy processes and systems, technical or otherwise.
 - Governance refers to how the project managed: network membership governance, technology infrastructure governance, and business network governance. Chapter 5 in the Blockchain for Business book by Arun, Cuomo, Gaur perfectly describes this concept.
 - Asset tokenization may fall under this category, which is how non-blockchain ready, or even non-digital “things” are represented faithfully and consistently on the blockchain.
 - Governance Checklist: the following is a reference for good blockchain governance. Many students will be very far from ideal, so if they have a good proportion of these concepts addressed in their paper, that would be great.
 - Network Membership Governance
 - Member on- and off-boarding
 - Equitable and fair cost structure
 - Data ownership structure
 - Regulatory oversight provisioning
 - Permission structure
 - SLA management
 - Network support services
 - Risk optimization
 - Network operations
 - Business Network Governance
 - Network charter and management
 - Common/shared services management
 - Business SLA: QA, performance, network security management
 - Business exchange conditions management
 - Industry-specific requirements, legal, regulatory compliance adherence
 - Business operations structure
 - Technology Infrastructure Governance
 - Distributed IT management structure
 - Model of distributed maintenance
 - Framework for utilizing industry standards
 - Resource optimization
 - Technology assessment and adoption



- Network deployment
- Network support services
- Risk optimization
- **Business (10 points):** the solution ensures effective governance (see below), and faithful representation of non-blockchain ready or even non-digital assets for blockchain (tokenization).
- **Technical (20 points):** the solution ensures effective tech infrastructure governance (see below), considers interfacing with legacy systems, justifies choice of chain (public or consortium; consensus implied), describes what data is on- and off-chain and the link between on- and off-chain activities, and addresses digital identity and privacy.

v. Valuation & Distribution (10 points): project has value and can be brought into reality

- Suggested Evaluation Considerations:
 - Revenue is about how the project generates value, which may not always be money.
 - Distribution is about how the project will go to market and what the next steps would be.
- **Business (10 points):** the solution generates value and can capture it, and there is a plan to get it launched, and even better if there are immediate next steps or short-term roadmap. No financial projections.
- **Technical (0 points):** not applicable

2. PROTOTYPE EVALUATION

EVALUATION FORMULA = $(A_i \times A_{ii}) \times \text{SUM}(B^*)$

A. MANDATORY CRITERIA

MUST HAVE BOTH TO PROCEED!

- i. Front-end: prototype must have a user interface
- ii. Back-end: prototype must write to a blockchain

B. GRADED CRITERIA

Projects may be evaluated by a jury of academic, industry, and government experts divided by those with technical expertise. The following is a guideline for distributing the point allocations:



CRITERIA	TOTAL
i. Problem & Solution	12
ii. Privacy & Security Risks	6
iii. Architecture	6
iv. Governance	6
TOTAL	30

Recommended Grading Guidelines

MAX SCORE	Inadequate	Satisfactory	Good	Very Good	Excellent
6	0-1	2-3	3-4	4-5	6
12	0-3	4-7	8-9	10-11	12

i. Problem & Solution (12 points): prototype addresses an appropriate problem properly

- Why is blockchain the best solution to the problem?
- What problem or 'pain point' is being solved for stakeholders? For a company?
- What value is being created or captured?
- Does the solution adequately address the problem?

ii. Privacy & Security Risks (6 points): prototype addresses privacy & security design

- Privacy — does the solution address data privacy and identity privacy?
- Privacy — will data unintentionally have leaked to unauthorized parties?
- Crypto-security — how does it address key management?
- Access Control — does the system have controls for who can access specific parts of the system?

iii. Architecture (6 points): prototype architecture adheres to decentralized application design

- How are transactions verified? More precisely, what is the setup of the consensus? For example,
 - If one uses Corda, what is the notary network?
 - If it is Fabric, who are the orders, peers etc.?
 - If Algorand, are you using a public chain or a private instance?
- What is stored on-chain and off-chain?



- How will the blockchain architecture handle compliance or regulation of the application if it is for a regulated industry such as banking or insurance?
- What is the data model if any?
- Is the integration of the blockchain solution with legacy systems addressed?
- How is data stored?
- Is there a digital identity system in place?

iv. Governance (6 points): prototype handles governance and trust for decentralized application design

- Network Membership Governance — how to ensure effective network operations, including onboarding and offboarding of participants, permissions, support services, risks, and equitable costs distributed fairly based on participants' activities?
 - Member onboarding/offboarding
 - Data ownership structure
 - Permission structure
 - Service level agreement (SLA) management
 - Network support services
 - Risk optimization
 - Network operations
- Focuses on IT infrastructure, resources, performance, security and associated risks
 - Distributed IT management structure
 - Model of distributed maintenance
 - Framework of utilizing industry standards
 - Resource optimization
 - Network deployment
 - Network support services