Government Blockchain Association
Global Gaming Working Group

Gaming Supplement

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Approvals

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Contents

1 Introduction

1.1 Purpose

This document acts as the guide for the [Blockchain Maturity Model (BMM)](...)[1] supplemental assessments for gaming solutions.

1.2 Scope

This supplement applies to solutions that use blockchain to verify the integrity of games of chance, and skills-based games.

1.3 Use

When performing a BMM assessment of a gaming solution, the lead assessor will review the supplemental requirements in this document with the Solution Point of Contact (SPoC)[2] to determine which requirements are applicable as "Domain" requirements. Achievement of Domain requirements allows for the additional designation of "Gaming" to the BMM rating.

This supplement can also be used as a roadmap in the development of gaming solutions that will provide trust in the gaming solution they provide.

The Lead Assessor and the SPoC review the table below and identifies the Gaming Features row(s) that are applicable to the game being assessed. Then the requirements that are marked "X" (Required) are reviewed to determine applicability of the requirements to the solution. The result of the analysis is recorded in the assessment plan. The Lead Assessor and the SPoC both sign the assessment plan to reflect their agreement on the BMM supplemental requirements.

1.4 Use Case / Requirements Matrix

The matrix below outlines for each Gaming Feature, the requirements that are required (X). Changes to the requirement may be made if agreed between the lead assessor and the SPoC.

Game Features	On-chain Transaction Log	Analytics Platform	Third-Party Reporting	Player Wallets	Random Number Generation	Game Treasury	Game Data Storage	Compliance Review
Compliance Reporting	X	X	X	X	X	X	X	X
In-Game Tokens (Asset Backed)	X	X	X	X		X	X	X
In-Game Tokens (Utility)	X	X	X	X		X	X	X

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[2] See BMM Overview Glossary

Game Features	On-chain Transaction Log	Analytics Platform	Third-Party Reporting	Player Wallets	Random Number Generation	Game Treasury	Game Data Storage	Compliance Review
In-Game Tokens (Security)	X	X	X	X	X	X	X	X
Multi-Player Interactions	X							
Play-to-Earn	X	X	X	X	X	X	X	X
Game of Chance	X	X	X	X	X	X	X	X
Skills Based Games	X	X		X		X		X
Badge Issuance	X	X						
Credentials	X		X	X		X	X	X
Leaderboards		X						

1.5 Assessment Ratings Considerations

For each agreed requirement, the solution will be deemed to meet or not meet the requirement. A justification for the assessment will be evidenced and recommendations for improvement will be provided. It is important to note that if the solution is deemed to meet or not meet the supplemental requirements will be at no greater than the BMM assessment ranking. E.g. if the maturity ranking or relevant capability ranking is a "2", then the supplemental requirements are assessed as applicable to level "2". If the solution advances in its capabilities to a higher BMM ranking then, the supplemental requirements will need to be reassessed in accordance with the higher ranking.

2 Gaming SME Qualifications

Gaming Subject Matter Experts (SMEs) have completed the Blockchain Maturity Model Course and has over 3 years of experience working in the gaming industry[3]. Experience includes:

- Compliance auditing and testing
- Education, research & study
- Game development.
- Game operator.
- Organizing gaming events
- Regulating games

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[3] See glossary.

3 Game Features

The Gaming blockchain or DLT solution should be attributed to one or more of the features defined below:

3.1 Compliance Reporting

Compliance reporting related to gaming refers to the process of ensuring that individuals, organizations, and businesses operating within the gaming industry adhere to all relevant laws, regulations, and industry standards. It involves monitoring, documenting, and reporting on various aspects of gaming operations to demonstrate compliance with legal and ethical requirements. Some games require compliance reporting to civil authorities at multiple levels of authority. The rules differ in various jurisdictions and require reporting in various formats.

3.2 In-Game Tokens

The use of in-game tokens creates a dynamic and transparent system that encourages stakeholders to actively participate in earning rewards, resource management, ownership and usage rights that comply to industry standards and best practices in the blockchain gaming industry.

3.2.1 Asset Backed Tokens

Asset Backed Tokens are purchased by the player for use in the game and are transferred or redeemed by others.

Example: Stables coins and player chips.

3.2.2 Utility Tokens

Utility Tokens are acquired by the player and provide access to in-game features and resources.

3.2.3 Security Tokens

Games with tokens that represent an investment of money with expectation of profits in a common enterprise that relies on the efforts of others.

NOTE: Some tokens may fit into one or more categories at the same time acting as hybrid tokens.

3.3 Multi-Player Interactions

Multi-player interactions involve participants engaging with each other and the platform through chat, games, bets, and more, creating a social and immersive experience.

3.4 Account Registration

Account registration is the process of linking an account to a game profile so that the game can track the activities and progress of the account through the game and for future game interactions. There shall be a method to collect player's personally identifiable information (PII) prior to the registration of a player account. Identity verification shall be undertaken before a player is allowed to play a game. The player account can only become active once age and identity verification are successfully completed, the player is determined to not be on any exclusion lists or prohibited from establishing or maintaining an account for any other reason, the player has acknowledged the necessary terms and conditions and privacy policy, and the player account registration is complete.

3.5   Play-to-Earn

Play-to-earn features enable players to collect rewards for playing games of chance or skill-based games.

3.6   Game of Chance

Games of chance present different and unpredictable scenarios to players each time they engage with the game. Winning the game is based on random factors and not based on acquired resources, knowledge, or skills.

> **Example:** Chance based games include Slots, Bingo Blitz, Roulette

3.7   Skills Based Games

A skill-based game is a game where the outcome is primarily determined by a player's physical or mental skills, instead of purely by chance. In pure skill games, there is no element of randomness.

> **Example:** Skills based games include Chess, Checkers

3.8   Badge Issuance

Badges are a mechanism to record achievements and activities within the game or gaming platform.

3.9   Credentials

Credentials are digital assets issued by an authority that enables the player to access game features or proves the accomplishment of attaining or meeting a criterion.

3.10   Leaderboards

Public or in-game displays of player status and statistics including performance and rankings.

4   Gaming Solution Requirements:

The specific requirements, some, or all of which may apply to blockchain solutions implemented in the gaming solutions, are as follows:

4.1   On-chain Transaction Log

The solution shall maintain an on-chain log of player transfers of value, a description of the transfer, and a timestamp for each transaction. Any asset used in the game shall be recorded on a blockchain to prevent a player from changing the asset without the notice of other players.

4.2   Analytics Platform

The solution shall include a front-end analytics-based player dashboard that connects with player data recorded on a blockchain. The solution shall facilitate the verification of data directly from the blockchain through third party block explorers.

> Examples include player ranking, badge issuance, awards, and points.

4.3   Third-Party Reporting

The solution shall be configurable to send data recorded on a blockchain to one or more third parties. The solution shall also provide third-parties direct visibility via a block explorer of reported data on a blockchain.

4.4   Player Wallets

Blockchain-based player wallets securely manage tokens and incentives that have a monetary equivalent. Transparent transactions and automated smart contracts ensure rewards for reporting, fostering trust and accountability within the gaming ecosystem.

4.5   Random Number Generation

A computational or physical device, algorithm, or system designed to produce numbers in a manner indistinguishable from random selection. The solution shall utilize a proof mechanism that utilizes the blockchain in the relevant transaction history.

4.6   Game Treasury

The game treasury shall maintain a gaming vault that reflects the real-time value of the assets in the vault and is available to the gaming community for verification while using a multi-sig wallet solution.

4.7   Game Data Storage

The solution shall follow the jurisdictional requirements of data storage from where they operate. The game must identify the appropriate classification of game as laid out in the regulatory requirements of its jurisdiction. This information must be made accessible within the game.

The game requires an API node connecting to the blockchain in use in its required jurisdiction. It will ensure that all transactions incorporate a geo-tag of the API node location.

4.8   Compliance Review

Games that include security tokens are reviewed by subject matter experts with adequate knowledge in the jurisdiction and area of law that is applicable to the game.

Appendix A: Glossary

Use the Appendix for additional information that may be needed to fully understand the content of this document.

Block Explorer   A tool or service that allows users to browse and interact with data on a blockchain network. It provides a user-friendly interface to view information about blocks, transactions, addresses, and other relevant data stored on the blockchain. Block explorers typically display real-time updates of the latest blocks and transactions, as well as historical data.

Key features of a block explorer may include:

- Block and transaction details: Users can explore information about individual blocks and transactions, including timestamps, transaction amounts, sender and recipient addresses, and transaction IDs (TXIDs).
- Address information: Users can search for specific addresses and view their transaction history, balance, and other related data.
- Network statistics: Block explorers often provide statistical data about the blockchain network, such as hash rate, network difficulty, and total number of transactions.
- Rich visualization: Some block explorers offer graphical representations of blockchain data, such as charts and graphs showing transaction trends, network activity, and distribution of wealth.
- API access: Many block explorers provide APIs (Application Programming Interfaces) that developers can use to access blockchain data programmatically for building applications or conducting research.

Gaming Industry   The collective businesses, organizations, and activities involved in the creation, development, production, distribution, and monetization of video games and related interactive entertainment experiences. It encompasses a wide range of activities, including game design, programming, art and animation, sound design, marketing, publishing, and retailing.

The gaming industry is characterized by its diversity, encompassing various genres such as action, adventure, role-playing, simulation, strategy, puzzle, and sports games. It includes different platforms where games are played, including consoles, personal computers, mobile devices, and cloud-based gaming services.

Appendix B: List of References

The following external sources have been used as inputs for this supplement and provide additional context related to the content of this document.

Source	Repository	Reference
Government Blockchain Association	GBA BMM Documents Page[4]	BMM Overview Document
		BMM Solution Requirements
		BMM Assessment Requirements

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[4] https://gbaglobal.org/blockchain-maturity-model/supplements

Appendix C: Authors & Contributors

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