

Challenge Service

Product Requirements Document

Author	Winantyo Iman Ramadha			
Contributors	Engineering: Mochamad Ridwan Taufik Hidayat, Fahmi Ardhianto, Wahyu Lukman Arzani Yanuwar Ishak Solution Architect: Aditya Ferry Ardyanto UIUX Design: Bima Dwi Kurnianto QA: Bagus Dharma Iswara Project Manager: Toni Mubarok			
Teams Involved	1. Engagement and Storage Team			
Status	Stakeholders: Raymond Arifi..., Ispanji Prata... <small>*Reviewed by key stakeholders before kick-off with the dev team</small>	PRD Review Completed	DEVELOPMENT - Kick off - Development - Feedback iteration - Releases Completed	RELEASE M1 - AGS 3.7.0 Completed

Qualitative Analysis

Target population, user and business value

Target population	Description	Game developer who would like to increase the player engagement by having a comprehensive challenge system. With a comprehensive challenge system, players will be motivated to invest more time and effort into the game to complete several challenges and obtain rewards.
	Reach	AGS customers
User Value	User problem description	<ul style="list-style-type: none"> ● From AGS customers, especially game developer and/or non technical admin point of view <ul style="list-style-type: none"> ○ There is no easy way to set up and manage a comprehensive challenge system. ○ The current service (reward) has very limited functionality and can't be able to satisfy customer needs, such as: <ul style="list-style-type: none"> ■ Support rewarding based on multiple conditions ■ Rewarding players other than in game items ■ Having a specific timeframe challenge, cycle, and rotation rules for the challenge. ○ Without a comprehensive challenge system set up within the game, players are struggling to stay active and motivated. It might also impact player retention rates, as players are more likely to abandon the game in search of experiences that provide a more defined sense of progression and achievement. ● From AccelByte point of view <ul style="list-style-type: none"> ○ With no comprehensive challenge service, customers are leaning toward asking us to develop custom services to achieve their goal use cases which are usually developed on top of our AGS services such as cloud save, reward or platform service or implementing using workaround solutions. ○ Hard to maintain the services, not only the custom service but also dependency services. <ul style="list-style-type: none"> ■ For example: SBZ challenge service which is built and very dependent on cloud save and social service.

	User problem frequency	Medium - High <ul style="list-style-type: none"> Based on the occurrence rate, this problem depends on the challenge system design that customers want. It can be one time set up or recurring. Based on the number of incoming requests, there are a medium-high number of customers asking for a comprehensive challenge system which usually we support with workaround solutions or even custom service.
	User problem severity	Medium - High <ul style="list-style-type: none"> It depends on the challenge system design/use cases that customers want to implement. Affects the customer's ability to accomplish their goals/major roadblock, since usually the design is not supported with the current service (reward). The consequences are, customers asking us for a custom service or workaround implementation solution.
Business Value	Business Impact	Medium - High <ul style="list-style-type: none"> By having a new comprehensive challenge system which can support various challenge use cases, it can minimize customization, hackish implementation or work around solutions which are hard to maintain so that we can only allocate resources to maintain one generic service instead.
	Strategic importance	High <ul style="list-style-type: none"> With a comprehensive challenge system, AccelByte will be more ahead than competitors since the competitors do not have a challenge system that is comprehensive and easy to manage. Customers will be more sticky with our services since challenge service will work with dependency to other services such as statistics, achievement, leaderboard, etc. so once they are already using all of them to build a comprehensive challenge system, it will be hard for them to migrate/move from our services.

Problem Statement and Goals

Overview of the problem to be solved and the desired outcome

Executive Summary

Challenge system is a feature to elevate gaming experience for players across various genres by seamlessly integrating it with the game's immersive story or strategic gameplay. With a comprehensive challenge system that enables game developers providing players with a set of objectives to achieve over set time frames can enhance their players retention or even drive revenue opportunities. Also, incorporating the reward linked to the challenge completion, including in-game items, exp boost, etc.

Goal

- Having a service that is comprehensive and has flexibility in customization so that it can cover various challenge use cases.
- Enables game developers to have a specific time period challenge system so that they can increase a chance of the players returning in a specific period of time.
- Enables game developers to have a recurring challenge system so that they can increase retention.
- Enables game developers to create a set of goals which later can also be added to specific challenges for players to strive for so that it can increase sense of accomplishment and progression.
- Enables game developers to incorporate rewards linked to the goals completion which include in game items, exp boost that can enhance a player engagement.
- Enable non-technical admin to set up and manage the challenge system.

Background & Problem Statement

AGS is currently only having a reward service which customers can use to reward players with in-game items after completing an objective. While some AGS customers are asking to have complex use cases other than the current reward service support such as cycled challenge with its rotation rules. With no comprehensive challenge service to support the generic and common reward/challenge use cases, customers find it difficult to achieve their goals to implement a comprehensive challenge system within their game since they need to go with custom service or workaround implementation. Moreover, game developers can't increase player retention and engagement since it is hard to make players keep returning back if there is no challenge to strive for after they complete everything.

Proposed Solution

Create a new comprehensive challenge service which can support common and generic use cases yet easy to set up and manage by non-technical admin.

- Provide a way for the admin to configure a challenge
 - Can be always active or only available for specific periods of time
- Provide a flexibility for admin to setting up recurring challenge
- Provide a way for the admin to have a set of goals and the reward that can be added to the challenge player can complete.
 - Can be added to the challenge as fixed goals or randomized goals.
- Provide a way for the admin to tag the goals for filtering purposes.
- Provide a way for the admin to set up goals prerequisites so that it has extra complexity.
- Provide a way for the admin to easily replace the expired challenge with the new one.

Open Questions

Example Use Case

Below is the sample UI for reference when you are reading the Acceptance Criteria. It should cover common use cases based on our research that are listed [here](#).

Winter Challenge

Winter Challenge

Embrace the chill with winter weekly missions

Dec 24, 2023 – Mar 24, 2024

Week 3

33%

Complete all challenges to obtain Glacian Aegis

Frosty Dominion

Battlefield is transformed into a frozen wasteland, preparing strategies to the harsh winter conditions.

3 / 15

Win a match 15 times to obtain Exclusive Winter Frost Armor Set and 250 EXP

Glacier Gauntlet

You are pitted against a powerful, ancient ice elemental known as Glacius.

COMPLETED

Kill Glacius 25 times to obtain Glacian Blade of Dominion and 50 EXP

Blizzard Brawl

You will participate in a special winter-themed tournament called "Blizzard Brawl."

1 / 5

Win a match 5 times and kill 10 enemies in a single match to obtain Arctic Aegis

Daily Mission

The screenshot shows the 'Daily Mission' section of a mobile game interface. At the top right, there is a purple progress bar labeled 'AccelByte' and a user profile icon. Below the title 'Daily Mission' and subtitle 'Join the journey and complete the daily mission', there are three mission cards:

- Merciless Marauder** **0/3**
Secure 3 kills in any game mode.
Reward: 500 coins, 2 diamonds.
- Teamwork Triumph** **0/1**
Win a match with at least 5 assists.
Reward: 750 coins, 1 diamond.
- Tactical Tactician**
Subscribe to Season Pass to unlock this mission.

At the bottom of the screen are three buttons: 'HEROES', 'INVENTORY', and a highlighted 'FIND MATCH' button.

Apprentice Quest

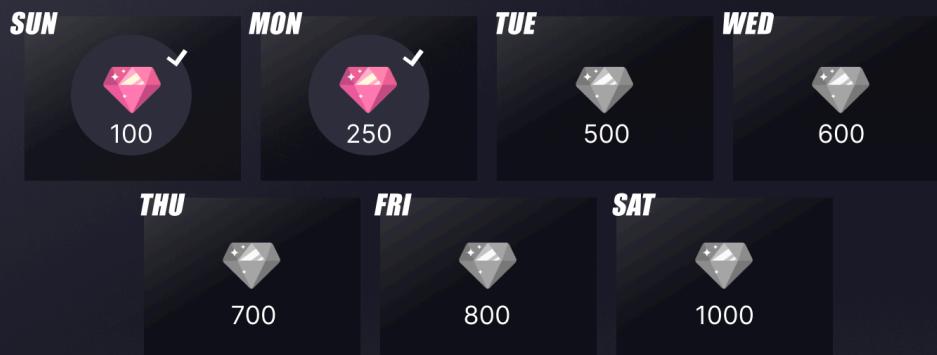
The screenshot shows the 'Apprentice Quest' section of a mobile game interface. On the left, there is a large title 'Apprentice Quest' and a subtitle 'Embark on an apprentice quest to conquer the season's wonders.' Below this is a button labeled 'ONLY THIS DECEMBER'. On the right, there is a 'BEGINNER' filter button with a downward arrow. Below it is a 'MEDIUM' filter button with an upward arrow. Five mission cards are listed:

- Basics Of Battle** **Completed**
Use 3 basic skill
Reward: 100 diamonds.
- Path Of The Protector** **1/3**
Secure 3 kills in any game mode.
Reward: 100 diamonds.
- Adept In Adversity** **7/10**
Win 10 match
Reward: 100 diamonds.
- Tactical Triumph** **0/1**
Win 1 match with 30 kills
Reward: 100 diamonds.
- Elemental Mastery** **0/3**

Sunrise Sign in

Sunrise Sign In

Log in every day to unlock exclusive rewards.



Odyssey of Ascendancy

Odyssey Of Ascendancy

Embark on an epic journey to claim your place among the legends, facing formidable foes and unraveling ancient mysteries.

Total mission completed: 20

Trials Of The Celestial Nexus

Aegis Of The Eternal Dawn

Shadows Of The Eclipse

Dominion Of The Enigma

The Final Stand

Operation Midnight Saber

Use 3 basic skill

Completed



100

Trial Of The Elemental Scepter

Secure 3 kills in any game mode.

0/3



100

Operation Thunderstrike

Use Thunderstrike Skill 3 times

1/3



100

Hunt For The Abyssal Leviathan

Win 1 match in Abyssal Leviathan

0/1



100

Solution (User Stories/Epics)

Introduce user stories and describe what needs to be built to meet product purpose and objectives.

Prio	Milestone	Story	Acceptance Criteria	Jira Link
1	M1 - EA-	As a game developer/admin, I want to be able to configure a challenge which contains challenge information such as name, date, goals and rewards	<ul style="list-style-type: none">- There is a way to configure a challenge from the admin portal- Each challenge configuration contains basic information that the admin can use	

		<p>so that I can display within the game</p>	<p>to display the information about the challenge to the player. For example,</p> <ul style="list-style-type: none"> - Winter challenge: Embrace the chill with winter daily missions - Daily mission: Join the journey and complete the daily mission - Apprentice quest: Embark on an apprentice quest to conquer the season's wonders. - Sunrise sign in: Log in every day to unlock exclusive rewards. - Odyssey of Ascendancy: A Legendary Journey. <ul style="list-style-type: none"> - Challenge configuration allows the admin to determine how long the challenge will be active. For example: <ul style="list-style-type: none"> - Time based challenge <ul style="list-style-type: none"> - Winter challenge: Dec 24, 2023 to Mar 24, 2024 - Apprentice quest: Dec 1, 2023 to Dec 31, 2023 - Non time based challenge <ul style="list-style-type: none"> - Daily mission: No end date - Sunrise sign in: No end date - Odyssey of Ascendancy: No end date <ul style="list-style-type: none"> - There is a way for the admin to determine how many goals and the rotation of the goals within the challenge configuration <ul style="list-style-type: none"> - Winter challenge: Every week there will be 3 new goals that players can complete during winter. - Daily mission: Everyday there will be a new 2 to 3 goals that the player can complete. - Apprentice quest: There are 15 challenges that players can complete during the month of December. - Sunrise sign in: There is a reward that players can claim after login everyday. - Odyssey of Ascendancy: There are a total of 50 goals that players can complete anytime. - There is a way for admin to choose whether they want to display the next goals and rewards ahead to the player or only display the challenge for the current period of rotation <ul style="list-style-type: none"> - Sunrise sign in: Display the list of rewards for the next 7 days. 	
1	M1 - EA	<p>As a game developer/admin, I want to be able to assign goals and reward to my challenge configuration so that players can undertake the challenge that is available within the system.</p>	<ul style="list-style-type: none"> - There is a way for the admin to configure the assignment rule for the challenges for each period of rotation <ul style="list-style-type: none"> - Winter challenge: Randomize 33 goals that are set and only display 3 each week with no repetition. - Daily mission: Randomize 100 goals that are set and only display 2 goals each day with allow repetition. - Apprentice quest: 15 goals with fixed schedule - Sunrise sign in: fix goals for 7 days which looped every week - Odyssey of Ascendancy: 50 fixed goals set for all time. 	

1	M1 - EA	As a game developer/admin, I want to be able to configure goals so that the players strive toward completing that to obtain the rewards.	<ul style="list-style-type: none"> - There is a way for the admin to configure goals for the challenge. - Each goals configuration will have <ul style="list-style-type: none"> - Requirements for the player to complete. For example: <ul style="list-style-type: none"> - Kill 10 enemies. - 3 Headshot <u>and</u> 2 Assist - Kill 7 minions <u>or</u> destroy 3 towers - Login 1 time - Own 3 magic sword - Rewards that will be granted once the player completes the challenge. For example: <ul style="list-style-type: none"> - 2 Purple Berry and 250 XP - 1 Wizard Mushroom - 5 Iron Ore and 3 Steel - There is a way for the admin to store additional information for the goals. For example: <ul style="list-style-type: none"> - Frosty Dominion: Battlefield is transformed into a frozen wasteland, preparing strategies for the harsh winter conditions. Win a match 15 times to obtain Exclusive Winter Frost Armor Set and 250 EXP. 	
1	M1 - EA	As a game developer/admin, I want to be able to tag the goals so that I can use it to categorize/filtering purposes.	<ul style="list-style-type: none"> - Add tag to the goals which can be used to filter <ul style="list-style-type: none"> - Apprentice quest: Grouping the goals into 3 tiers, beginner, medium, advance, each tier contains 5 goals. - Odyssey of Ascendancy: Group each 5 goals into one. 	
1	M1 - EA	As a player, I want to be able to see the available challenges within the game that I can complete to obtain the reward.	<ul style="list-style-type: none"> - Provide a way for players to retrieve the challenge information - Only return the challenge information that is allowed to be retrieved by the player. <p>For example:</p> <ul style="list-style-type: none"> - Winter challenge: Only be able to see 3 goals for this week, and not be able to see the next and previous week's goals. - Daily mission: Able to see only today's goals. - Apprentice quest: Able to see all goals that are set. - Sunrise sign in: Be able to see all goals and rewards within a week (for 7 days). - Odyssey of Ascendancy: Able to see all goals that are set. <p>- Ability for player to filter goals by tag</p>	
2	M1 - EA	As a player, I want to be able to see my progress toward a challenge so that I know the effort that I need to spend to complete the challenge and know what challenge that I complete.	<ul style="list-style-type: none"> - There is a way for player to see the challenge progress - There is a way for player to see whether they: <ul style="list-style-type: none"> - Already started making progress - Complete the challenge - Or, not making any progress - There is a way to see list of reward that I have obtain from completing the challenge 	

2	M2-EA -FEAT URE-2	As a game developer/admin, I want to be able to configure the actual reset time for the challenge rotation so that I can tailor the challenge to match with my game use case.	<ul style="list-style-type: none"> - There is a way for the admin to configure the reset time for the challenge rotation. <ul style="list-style-type: none"> - Reset date configuration should be displayed if the admin creates a dynamic challenge configuration. - No need to set the reset time for challenge without rotation. - If the admin does not specify the reset time, it will follow the server reset time. - Reset time should be aligned with the cycle that admin selects if within the challenge configuration they use cycle as requirements. - Admin can specify: <ul style="list-style-type: none"> - Time for daily rotation - Date and Time for weekly, monthly, seasonal and custom rotation 	
1	M2-EA -FEAT URE-3	As a game developer/admin, I want to have a flexible custom assignment rule for goals and rewards so that players can undertake the goals within the challenge configuration, which are distributed according to my custom rule.	<ul style="list-style-type: none"> - There is a way for admin to configure custom assignment rule/logic <ul style="list-style-type: none"> - There is a custom assignment is to distribute the goals to the player <ul style="list-style-type: none"> - If custom assignment is active, admins don't need to configure all assignment related configurations. - Admin just need to set up the goal configurations and let the custom assignment distribute the goals to the players. - Custom configuration logic is offloaded to AccelByte Extend. - Extend only distribute the goals, all player interaction should still directly challenge service. - Each player can have different goals. <ul style="list-style-type: none"> - This is to allow custom assignment logic to flexibly assign different goals to different players. 	
2	M2-FE ATUR E-4	As a game developer/admin, I want to be able to manage player challenge progress from the admin portal so that I can see the player progress and take action accordingly if needed	<ul style="list-style-type: none"> - There is a way for admin to see player progress from admin portal <ul style="list-style-type: none"> - Admin can see specific player's challenge progression - Admin can see list of goals progressed by the player - Admin can see reward claimed by the players - There is a way for the admin to trigger a reward claim from Admin Portal to help fulfill the item to the player 	
2	M3 - FEATU RE-5	As a game developer/admin, I want to be able to configure challenge and goal prerequisites for each goal and/or challenge so that I can add extra complexity to the goal or challenge.	<ul style="list-style-type: none"> - There is a way for the admin to configure challenge and goal prerequisites <ul style="list-style-type: none"> - Challenge prerequisites – Daily mission: players need to own specific items to unlock the challenge. - Goal prerequisites – Additional mission: players need to pass level 10 to unlock the third mission. - Prerequisites that we will support for initial version of this feature are: <ul style="list-style-type: none"> - Statistic - High - Entitlement check - High 	

			<ul style="list-style-type: none"> - Goal completion - High - Others similar with goal requirement <ul style="list-style-type: none"> - Low - The behavior for the prerequisites are: <ul style="list-style-type: none"> - Once the player unlocks the prerequisites it can't be relocked. E.g. The player passes the prerequisites by having an item and they consume all the items, so the prerequisites should still be passed. - Players can see their requirement progression. - Players can only make progress once they pass the prerequisites. (If possible blocking the main requirement progress) - Admin can set the restriction for players to view information of the challenge or goals whether prerequisites have been met or not. <ul style="list-style-type: none"> - Players can see all information upon the prerequisites have been met. - Players can see all information before the prerequisites are met. 	
2	M4 - FEATU RE-6	As a game developer/admin, I want to be able to configure the reward claim behavior (<i>need further discussion</i>)	<ul style="list-style-type: none"> - There is a way for admin to define the reward claiming process <ul style="list-style-type: none"> - Daily mission: Players will obtain the reward directly once they complete the goals. - Sunrise sign in: Players need to claim the reward manually after login. - There is a way for admin to define when the reward can be claimed <ul style="list-style-type: none"> - Winter challenge: Automatically obtained by the end of week after the goals were changed. - Daily mission: Directly after players complete the goals. - Apprentice Quest: By the end of the challenge active date. - There is a way for admin to define claiming rule <ul style="list-style-type: none"> - Not allowing to claim previous period of rotation reward - Allow players to claim previous period of rotation rewards with certain conditions. For example: - Sunrise sign in: Pay with some VC, only be able to claim the previous day. 	
3	TBD	As a game developer/admin, I want to be able to set the limitation on how many goals that player can complete and allow them to choose some from all goals that are provided. (TBD)	<ul style="list-style-type: none"> - There is a way for the admin to configure assignment rules. <ul style="list-style-type: none"> - Auto assignment – will auto assign goals to the player. - Manual assignment – will let players choose the goals they want to complete. For example, players commit to goals posted in the Job Board challenge. - There is a way for the admin to set how many goals that player can claim at the same time. 	

Release Plan

Include tentative timeframes and define release milestones

Release Milestone	Timeline	Features	Dependencies & Considerations	Marketing Plan
M1 Early Access FEATURE-1	Q2 2024	<p>Challenge</p> <ul style="list-style-type: none"> - Fixed challenges - Randomized challenges - Time based challenges - All time challenges - Recurring challenges <p>Goals and reward</p> <ul style="list-style-type: none"> - Multiple goals condition - Multiple rewards <p>Goals tagging for filtering purpose</p>	<p>Other AccelByte services that publish kafka events, such as.</p> <ul style="list-style-type: none"> - Social - Achievement - Leaderboard - Season Pass - IAM - E-commerce - Etc <p>Platform service for granting the reward</p>	TBD
M2 Early Access FEATURE-2 General Availability FEATURE-3 FEATURE-4	Q3 2024 - Early Q4 2024	<ul style="list-style-type: none"> - Custom reset date and time - Custom assignment - Manage player challenge from Admin Portal (including admin portal UX improvement) 	This will be released first, and the load test will be conducted once we confirm a customer's commitment to use it for their public launch.	TBD
M3 FEATURE-5	Postponed	<ul style="list-style-type: none"> - Challenge prerequisites 	Other AccelByte services that store the data that will be used to validate the prerequisite	TBD
M4 FEATURE-6 FEATURE-7	Postponed	Reward claim behavior	Platform service	TBD
	Postponed	<p>Emit async event</p> <ul style="list-style-type: none"> - We might release this partially especially when the goal is completed. 	Analytics	TBD

Success Criteria

Introduce measurements and tactics to measure success.

Outcome	Metric	Goal	Link
TBD			

Future Considerations & Risks

Address risks and elaborate on why some features might be iterated upon in the future.

Assumptions

TBD

Risks

TBD

Future Considerations

TBD

References

Supporting documents:

List of current reward service problem and customers request

<https://accelbyte.atlassian.net/wiki/spaces/JES/pages/2959507495/Feature+Analysis+What+is+that+problem+with+the+Current+Reward+Service>

Example use cases in some popular game as reference

<https://accelbyte.atlassian.net/wiki/spaces/JES/pages/3059744973/Use+Cases+Reward+Challenge+Use+Cases>

1-pager Challenge System

https://docs.google.com/document/d/1ry_tgNAKgF4BfyGqmGxD1I6yX2DFGTsBI0TcbA1yDS0/edit

OPTIONAL

Competitor Insights

Include product offerings from competitors to better understand the market landscape

Found there is no competitor that support challenge use cases