SOFTWARE RELEASE PLAN

STARBOOKS: Whiz Challenge

Prepared By: Team NEXUS (Dumbrique, Gercan, Quianzon, Salipande)
Date : June 9, 2025

Revision History

Version	Date	Description	Author
1.0	June 1, 2026	The first major release features four game modes (Whiz Challenge, Whiz Memory Match, Whiz Puzzle, Whiz Battle), player stats, reward system, and upgraded admin dashboard with analytics.	Team Name: NEXUS Team Members: • Kelly Dumbrique • Arcielle Marie Gercan • Shandrae Lois Quianzon • Janice Maxene Salipande

Table of Contents

Prepared By: Team NEXUS (Dumbrique, Gercan, Quianzon, Salipande)
Date : June 9, 2025

1 Introduction

1.1 Purpose of the release plan

The purpose of this release plan is to outline the deployment strategy for the first major release (Version 1.0) of the STARBOOKS Whiz Challenge system. It provides a clear understanding of what features and functionalities will be delivered, the intended scope of the release, and what will be deferred for future updates. This plan serves as a guide for stakeholders—especially the DOST-STII—on what to expect in terms of system capabilities, limitations, and supported use cases upon rollout. It focuses solely on the deployment aspects of the software and does not detail the development processes or methodologies.

1.2 Goals and objectives of the release:

- Launch an enhanced version of the STARBOOKS Whiz Challenge app featuring four interactive game modes, player stats, rewards, improved gameplay, and a revamped admin dashboard with AI-assisted content creation and analytics.
- Implement an offline-first system to ensure reliable access and functionality in both connected and remote exhibit areas.
- Attract more learners and encourage frequent usage through gamified learning experiences.
- Improve science and math learning outcomes through engaging, curriculum-aligned mini-games.
- Support DOST-STII's mission to expand access to science and technology resources by making learning more accessible, interactive, and impactful for students across the country.
- Strengthen partnerships with educational institutions and government agencies by providing a more robust, feature-rich learning platform.

1.3 Scope of the release

1.3.1 Included:

- **User registration** and **login system** for tracking individual player progress
- **Four game modes** available:
  - Whiz Challenge (Solo Quiz – offline)
  - Whiz Memory Game (offline)
  - Whiz Puzzle (offline)

    - Whiz Battle (1v1 Quiz Showdown – requires internet for game code matchmaking)
- **Science and Math subject categories** with three difficulty levels **(Easy, Average, Difficult)**
- **Badge and reward system** to recognize player achievements and boost motivation
- **Player statistics dashboard** showing earned badges, scores, best time, accuracy, battle history, win rate, and more
- **Admin panel** with functionalities to:
    - Manage player and admin lists
    - Manage quiz questions with AI-assisted question generation using OpenAI
    - Set number of questions, scores, and timer for each difficulty level
    - Manage badges and reward claiming
    - View and export game analytics
        - Total registered players
        - Player Registration Trend
        - Most Played Game Mode
        - Most Played Level Per Game Mode
        - Top Category
        - Average Session Duration
        - Reward Claims Summary
    - Data is **stored locally first** and **syncs to the cloud** when internet becomes available

1.3.2 Excluded:

- No integration with the main STARBOOKS digital library system
- No mobile or tablet version; limited to kiosk deployment only
- No topic-specific categories for Whiz Memory Match; only default STARBOOKS-related icons are used
- Only jigsaw-type puzzles are supported in Whiz Puzzle; other puzzle formats (e.g., word games) are not included
- No image customization for memory and puzzle games; game assets and settings are fixed and cannot be modified by admins
- Whiz Battle is limited to 1v1 public matchmaking via game code; private rooms and other multiplayer formats are not yet supported

- No player-specific analytics; the admin dashboard displays only overall trends and summary statistics across all users

2 Release Information

- **Release name & version:** STARBOOKS: Whiz Challenge v1.0
- **Target release date:** June 1, 2026
- **Release type:** Major

3 Team and Roles

3.1 Key stakeholders:

- **Project Sponsor:** DOST-STII
- **Target Users:**
  - End Users: Grades 1 to 12 students, exhibit visitors
  - Admin Users: teachers, librarians, exhibit facilitators

3.1.1 Development team:

- **Project Manager:** Kelly Dumbrique
- **Documentation Lead:** Janice Maxene Salipande
- **UI/UX Designers:** Shandrae Lois Quianzon, Arcielle Marie Gercan, Janice Maxene Salipande
- **Frontend Developers:** Shandrae Lois Quianzon
- **Backend Developer:** Arcielle Marie Gercan

3.1.2 Testing team:

- **QA Lead:** Kelly Dumbrique
- **Testers:** Arcielle Marie Gercan, Shandrae Lois Quianzon, Janice Maxene Salipande

3.1.3 Release Management:

- **Release manager:** Kelly Dumbrique

3.1.4 Other relevant roles:

- **Technical Consultants:** DOST STARBOOKS Programmers

4 Scope and Features

4.1 List of features to be included in the release:

- **User registration** and **login system** for tracking individual player progress
- **Four game modes** available:
    - Whiz Challenge (Solo Quiz – offline)
    - Whiz Memory Game (offline)
    - Whiz Puzzle (offline)
    - Whiz Battle (1v1 Quiz Showdown – requires internet for game code matchmaking)
- **Science and Math subject categories** with three difficulty levels **(Easy, Average, Difficult)**
- **Badge and reward system** to recognize player achievements and boost motivation
- **Player statistics dashboard** showing earned badges, scores, best time, accuracy, battle history, win rate, and more
- **Admin panel** with functionalities to:
    - Manage player and admin lists
    - Manage quiz questions with AI-assisted question generation using OpenAI
    - Set number of questions, scores, and timer for each difficulty level
    - Manage badges and reward claiming
    - View and export game analytics
        - Total registered players
        - Player Registration Trend
        - Most Played Game Mode
        - Most Played Level Per Game Mode
        - Top Category
        - Average Session Duration
        - Reward Claims Summary
- Data is **stored locally first** and **syncs to the cloud** when internet becomes available

4.2 User stories or requirements:

- As a player, I want to register an account, so I can save my progress and personalize my experience.
- As a player, I want to log in securely, so I can access my stats and saved data anytime.
- As a player, I want to play quizzes, memory games, and puzzle games offline, so I can keep learning even without internet access.

- As a player, I want to select a subject and difficulty level before starting a game, so I can tailor the experience to my skill.
- As a player, I want to join or host a 1v1 quiz battle using a game code when online, so I can compete with others in real time.
- As a player, I want to view my earned badges, quiz stats, and battle history in my profile, so I can track my achievements and performance.
- As a player, I want to claim rewards when I meet badge milestones, so I feel motivated to keep playing.
- As a player, I want to update my profile details and change my password, so I can keep my account secure and accurate.
- As a player, I want to log out securely, so I can protect my data and privacy after playing.
- As an admin, I want to view and manage all registered players, so I can add, edit, or remove accounts when needed.
- As an admin, I want to change a player's password if necessary, so I can support account recovery or maintenance.
- As an admin, I want to view and manage fellow admin accounts so I can control dashboard access and responsibilities.
- As an admin, I want to add, edit, delete, or import quiz questions, so I can keep the content accurate and updated.
- As an admin, I want to generate quiz questions using AI assistance, so I can save time on content creation.
- As an admin, I want to configure difficulty levels by setting the number of questions, time limit, and scores, so the challenge feels balanced.
- As an admin, I want to give rewards after badge milestones are met, so I can recognize player achievements.
- As an admin, I want to view detailed analytics such as most played games, badge distribution, and user trends, so I can assess player engagement.
- As an admin, I want to export analytics reports, so I can use the data for planning and documentation.
- As an admin, I want to log out securely from the dashboard, so I can protect access to the system.

4.3 Dependencies:

- Successful kiosk environment setup
- Functional local data storage and retrieval
- Stable internet connection for Whiz Battle matchmaking and data syncing

- Preloaded quiz content
- Proper admin dashboard installation and configuration
- Ongoing technical support and coordination with the DOST STARBOOKS team

4.4 Out-of-scope items:

- No integration with the main STARBOOKS digital library system
- No mobile or tablet version; limited to kiosk deployment only
- No topic-specific categories for Whiz Memory Match; only default STARBOOKS-related icons are used
- Only jigsaw-type puzzles are supported in Whiz Puzzle; other puzzle formats (e.g., word games) are not included
- No image customization for memory and puzzle games; game assets and settings are fixed and cannot be modified by admins
- Whiz Battle is limited to 1v1 public matchmaking via game code; private rooms and other multiplayer formats are not yet supported
- No player-specific analytics; the admin dashboard displays only overall trends and summary statistics across all users

5 Release Schedule

5.1 Timeline of activities:

Start Date	End Date	Activity
April 30, 2025	May 20, 2025	Planning and Requirement Analysis
May 21, 2025	June 30, 2025	Wireframing and UI/UX Design in Figma
July 21, 2025	August 15, 2025	Set up codebase, project structure, database, authentication
August 16, 2025	September 15, 2025	Develop core player features (Register/Login, Profile, Quiz Game, Stats)
September 16, 2025	October 15, 2025	Develop memory & puzzle games, and rewards system
October 16, 2025	November 15, 2025	Develop Whiz Battle (multiplayer), real-time features
November 16, 2025	November 30, 2025	Finalize admin dashboard: user management, content management, AI-assisted generation, analytics
December 1, 2025	December 15, 2025	Internal unit testing per module
December 16, 2025	January 15, 2026	Integrated system testing
January 16, 2026	January 31, 2026	Usability testing with real users (pilot phase)
February 1, 2026	February 28, 2026	Performance optimization, offline testing, bug fixes
March 1, 2026	March 31, 2026	Prepare deployment scripts, finalize offline DB sync
April 1, 2026	April 20, 2026	Final polish, testing backups
April 21, 2026	May 10, 2026	Cloud setup, deployment to kiosks
May 11, 2026	May 15, 2026	Final QA check, dry run of full platform
May 16, 2026	May 25, 2026	Soft launch with select schools or DOST events
May 26, 2026	May 31, 2026	Final tweaks based on feedback
June 1, 2026	June 1, 2026	Official Release

5.2 Key milestones:

- **Development completion:** November 30, 2025
- **Testing phases:**
  - Unit Testing Completion: December 15, 2025
  - Integration Testing Completion: January 15, 2026
  - System Testing Completion: January 31, 2026
  - UAT Completion: February 28, 2026
- **Code freeze Period:** March 1 – May 10, 2026
- **Deployment Date:** May 11, 2026
- **Release sign-off:** May 31, 2026

5.3 Dependencies between tasks:

- Game mode development depends on finalized wireframes and UI components.
- UAT cannot begin until system testing is complete.
- Offline testing and kiosk setup depend on the finalized feature set and performance testing.
- Final deployment requires code freeze and testing sign-off.
- Content approval must be completed before finalizing quiz questions and media assets for development and deployment.
- Hardware readiness confirmation is required before deployment phases start.
- Team availability for key roles must be ensured during critical milestones such as UAT and deployment.
- Training materials and admin documentation must be delivered prior to system go-live.

6 Testing Strategy

6.1 Types of testing to be performed:

- **Unit Testing:** Verify individual features like game logic, scoring, and user profile handling.
- **Integration Testing:** Test interactions between modules such as login → game modes → reward system.

- **System Testing:** Evaluate the complete application, including both player and admin workflows.
- **User Acceptance Testing (UAT):** Validate usability and educational effectiveness with students, exhibit visitors, or educators.
- **Security Testing:** Ensure local data and admin features are protected from unauthorized access.
- **Performance Testing:** Assess loading times, responsiveness, and system stability especially during high activity at exhibits.

6.2 Testing environment:

- **Development Environment:** Local machines and development servers where initial coding, unit testing, and debugging are done by developers.
- **QA Environment:** A controlled setup mimicking production where QA testers perform functional, integration, and regression testing. This environment includes testing versions of the kiosk software and admin dashboard.
- **Staging Environment:** A pre-production environment that closely replicates the live setup. Used for final acceptance testing (UAT), performance testing, and deployment rehearsals.
- **Production Environment:** The live STARBOOKS kiosks and admin systems where the final release is deployed for actual users.

6.3 Test data:

- Simulated player profiles reflecting various game progress stages and badge achievements.
- Sample quiz questions covering all topics and difficulty levels.
- Dummy battle results for testing rankings and win/loss tracking.
- Simulated admin users.
- Error/invalid input data (e.g., corrupted quiz questions, invalid login attempts)
- Network conditions simulation data for offline/online transitions (to test the offline-first functionality and Whiz Battle matchmaking)
- Data for reward claiming scenarios (to test claiming limits, duplicate claims, or invalid rewards)

6.4 Entry and exit criteria for each testing phase:

- **Unit Testing**
    - Entry Criteria: Completion of individual game modules or backend functions.
    - Exit Criteria: 100% of unit test cases passed with no errors.

- **System Testing**
  - Entry Criteria: All modules integrated successfully.
  - Exit Criteria: At least 95% of test cases passed; no critical bugs remain.
- **UAT**
  - Entry Criteria: Stable version deployed in staging; feedback plan prepared.
  - Exit Criteria: Positive user feedback with no major usability issues.

6.5 Test automation strategy:

- Manual testing for kiosk interactions and UI behavior.
- Automate regression tests for quiz mechanics, progress updates, and login sessions.
- Focus automation on high-use and reusable test cases (e.g., login, start game, award badge).

6.6 Defect management process:

- Use of a shared bug tracking system to log issues.
- Bugs prioritized based on severity: Critical, High, Medium, Low.
- Defined flow: Bug found → Assigned → Fixed → Retested → Closed.

7 Deployment Plan

7.1 Deployment Approach:

- Phased deployment starting with a pilot exhibit or learning center, followed by gradual rollout to additional DOST STARBOOKS exhibits and partner learning centers.

7.2 Deployment Environment:

- Kiosks installed at each exhibit or learning center.
- Internet connection is required for the Whiz Battle matchmaking feature.
- Admin dashboard hosted locally on the kiosk.

7.3 Deployment Steps:

- Prepare the kiosk hardware and software environment at the pilot site.
- Deploy the STARBOOKS Whiz Challenge v1.0 application with preloaded content onto the kiosk.
- Conduct final acceptance testing on-site to verify functionality and performance.
- Officially launch the application at the pilot site.
- Monitor kiosk performance, user activity, and gather feedback.

- Address issues or bugs found during pilot use.
- Gradually deploy to additional exhibits or learning centers following successful pilot validation.

7.4 Rollback Plan:

- Maintain backup copies of the previous stable version of the app and content.
- In case of critical issues, reinstall the previous version on the kiosks.
- Restore previous content and data backups as needed.
- Notify stakeholders and pause rollout until issues are resolved.

7.5 Downtime estimation and communication:

7.5.1 Estimated downtime:

- Minimal to none; temporary downtime of up to 30 minutes may occur during software update or initial setup.

7.5.2 Communication plan:

- Notify DOST exhibit staff and learning center coordinators in advance about scheduled deployment or updates, including instructions for kiosk use and support contacts.

8 Communication Plan

8.1 Communication channels:

- Email
- STARBOOKS official website
- Social media pages of DOST and STARBOOKS
- Announcements during DOST exhibit events
- Printed materials or posters near kiosk locations

8.2 Frequency of communication:

- Regular updates to DOST STARBOOKS team during development
- Announcements to exhibit organizers before and after deployment
- Bi-weekly progress reports to project stakeholders

8.3 Target audience (internal and external):

- **Internal:** Project development team, QA team, deployment coordinators

- **External:** DOST STARBOOKS exhibit organizers, teachers, students, event attendees

8.4 Key messages:

- The STARBOOKS Whiz Challenge offers an engaging, gamified way for students to learn Science and Math.
- Players are encouraged to register, play, and earn rewards on the kiosks.
- The system is easy to use and designed for areas with limited internet access.
- Organizers and teachers will be supported through technical guidance and setup assistance.

8.5 Stakeholder updates:

- Regular check-ins with DOST STARBOOKS technical team to address deployment and support needs
- Demonstrations or walkthroughs of the app during DOST events or training sessions
- Final presentation or report summarizing deployment, user engagement, and next steps

9 Risk Management

9.1 Identification of Potential Risks:

- Data privacy concerns (user profiles, quiz history, performance stats)
- Low user engagement or repeat play rate
- Technical issues during kiosk setup or software installation
- Inconsistent or no internet access for Whiz Battle game mode
- Hardware limitations or damage to kiosks
- Content errors in quiz questions or incorrect leaderboard tracking

9.2 Risk Assessment:

Potential Risk	Probability	Impact	Migration Strategy
Data privacy concerns	Medium	High	Use local encrypted data storage, apply role-based access control in admin panel, and provide a clear privacy notice.
Low user engagement or repeat play rate	Medium	Medium	Design fun and rewarding gameplay, include visual

			badges and prizes, and promote in exhibits with interactive demos.
Technical issues during kiosk setup or software installation	Medium	High	Create a deployment checklist, test thoroughly on multiple kiosk units, and coordinate closely with DOST tech team.
Internet access issues (for Whiz Battle)	High	Medium	Keep all core game modes offline-capable; offer Whiz Battle only in venues with reliable Wi-Fi.
Hardware limitations or kiosk malfunction	Low	High	Use tested hardware and store backup installers; train staff on basic troubleshooting.
Content errors in quizzes or leaderboard tracking	Medium	Medium	Review and validate all questions/content before deployment; allow admin panel updates for quick fixes.

9.3 Contingency Plans:

- If Whiz Battle mode is unavailable due to connectivity, encourage players to engage in solo modes.
- If a kiosk fails, direct users to alternate units if available.
- Maintain a USB backup of the software for reinstallation.
- Assign DOST staff or facilitators for on-site support during initial rollouts.

10 Rollback Plan

10.1 Conditions for Rollback:

- Critical application errors affecting game modes, admin panel, or user data.
- Major security vulnerabilities detected post-deployment.
- System instability or repeated crashes during exhibit use.
- Significant negative feedback from users or organizers during initial rollout.

10.2 Step-by-step rollback procedure:

- Halt access to the current deployed version on affected kiosks.

- Run the rollback procedure to restore the previous stable build of the app (games, database, admin settings).
- Validate system functionality by conducting basic QA tests on restored version.
- Inform exhibit organizers and stakeholders about the rollback.
- Document root cause and begin corrective development.

10.3 Responsibilities:

- **Release Manager:** Decides and initiates the rollback.
- **Development Team:** Executes the rollback script, ensures system stability.
- **QA Team:** Confirms functionality of restored version.
- **Communication Lead:** Notifies DOST organizers and exhibit stakeholders.

10.4 Communication plan for rollback:

- Immediate notice to DOST STARBOOKS coordinators and onsite exhibit staff.
- Clear explanation of the issue, rollback timeline, and next steps.
- Follow-up update once system is stable and operational.

11 Post-Release Activities

11.1 Monitoring and Support:

- Set up a dedicated support channel either through email/forms or on-site help desk during exhibits for reporting technical issues.
- Regularly monitor system performance on kiosks to ensure games and features run smoothly.
- Assign support personnel during exhibit runs to assist users and troubleshoot in real-time.

11.2 Performance monitoring:

- Track metrics such as number of plays per game mode, badge unlock rates, crash reports, and error logs.
- Monitor player engagement and repeat usage to evaluate game effectiveness.
- Use local logging tools to detect performance lags or app freeze issues.

11.3 Bug fixes and hotfixes:

- Define a protocol for logging bugs reported by users or organizers.
- Prioritize issues based on severity and frequency.

- Deploy hotfixes to kiosks via USB or local updates, since internet access is limited.

11.4 User feedback collection:

- Use feedback forms or survey during exhibits.
- Conduct informal interviews with students, teachers, and organizers for qualitative insights.

11.5 Release review and lessons learned:

- Organize a post-release evaluation session with the development team and DOST partners.
- Document challenges encountered, user feedback highlights, and suggestions for future versions.
- Identify improvements for game design, reward systems, or kiosk performance.