

# VisionVerse x SkillShare Quiz

## Product Requirements Document

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for Team CTRL+24's Capstone Project

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# 1. Overview

## 1.1. Summary

This web-based application delivers an interactive, gamified quiz to help users explore potential career paths and receive tailored Skillshare course recommendations. By combining animated, personality-based questions with personalized outcomes, the platform engages learners while guiding them toward relevant skill development opportunities.

## 1.2. Context

The project was initiated as part of the Macquarie University capstone program in collaboration with VisionVerse. The goal was to work in a team of six to design, build, and deliver a functional MVP within a 16-week timeframe, balancing academic requirements with real stakeholder needs.

# 2. Problem Statement

Individuals face an overwhelming range of career pathways, making it difficult to choose relevant learning opportunities. At the same time, traditional career guidance tools are often static, text-heavy, and disengaging, which discourages users from completing them or taking the results seriously.

VisionVerse sought to address this by creating an engaging, gamified quiz experience that motivates users to explore career options in a more enjoyable way. A secondary business objective was to integrate Skillshare course recommendations, creating a pathway from quiz results to practical skill development and driving traffic to VisionVerse's partner platform.

### 3. Objectives & Goals

The goals of this project can be grouped into two categories: user-facing goals, which focus on delivering value to end users, and business & stakeholder goals, which reflect VisionVerse's strategic objectives and the academic project requirements.

#### 3.1. User-Facing Goals

- Provide an engaging, gamified experience that motivates users to complete the quiz.
- Deliver clear, relatable outcomes through animal-based personas and suggested career paths.
- Present users with personalised insights, including a spider chart visualising strengths across six personality categories: action orientation, problem solving, innovation, teamwork, influence, and attention to detail.
- Recommend relevant Skillshare courses aligned to the user's suggested career options to encourage further skill development.

#### 3.2. Business & Stakeholder Goals

- Position VisionVerse as a provider of interactive, quiz-based applications that can drive user engagement and traffic to partner platforms.
- Validate the viability of quiz-driven applications as a potential monetization strategy through third-party integrations (e.g., Skillshare).
- Deliver a functional MVP to VisionVerse within the 16-week capstone timeframe, including required documentation and project handover materials.
- Incorporate stakeholder feedback iteratively and implement analytics to measure user engagement and inform future product iterations.

## 4. Target Users & Personas

The quiz was designed for individuals exploring potential career paths who are seeking a more engaging and meaningful alternative to traditional assessments. While the primary audience skews younger due to the gamified and personality-driven design, the product remains accessible to a broad range of users with minimal technical knowledge required. The table below summarises three representative personas, highlighting their goals, frustrations, and needs that the quiz addresses.

	The Student Explorer	The Early-Career Switcher	The Curious Hobbyist
<b>Profile</b>	High school or university student, 16–22 years old, uncertain about career direction.	Young professional, 23–30 years old, considering a career change or further skill development.	Any age, casually exploring interests or side projects, not actively seeking a career change but curious about personal strengths.
<b>Goals</b>	Wants guidance on future study or career options; prefers experiences that feel fun and interactive.	Wants reassurance that their personality traits align with certain careers; values practical suggestions for courses to build skills.	Wants an enjoyable, low-pressure way to reflect on personality and discover new skills or hobbies.
<b>Frustrations</b>	Finds traditional career tests boring, overly formal, and unhelpful in providing actionable next steps.	Overwhelmed by too many career options; existing tools feel generic and disconnected from actionable resources.	Finds most assessments too formal or rigid, offering little insight or actionable suggestions.
<b>Needs from the Product</b>	A lighthearted quiz experience that delivers both personality insight and clear, recommended career paths.	A relatable persona output, confidence in career alignment, and course recommendations that provide a concrete path forward.	A fun, gamified experience that provides meaningful insights and recommendations, even for non-career purposes.

## 5. User Stories

The following user stories outline the key interactions and needs of users and stakeholders engaging with the quiz platform. They focus on delivering an engaging, gamified experience while ensuring useful career guidance.

ID	User Story	Acceptance Criteria
US1	As a user exploring career options, I want to answer a series of questions, so that I can learn more about my strengths and interests.	Quiz must allow all questions to be answered interactively with animated feedback.
US2	As a user, I want to receive a list of suggested careers after completing the quiz, so that I understand which paths suit me.	Results screen displays persona, career list, and spider chart summarizing personality traits.
US3	As a user, I want recommended Skillshare courses tied to my suggested careers, so that I can take actionable steps to develop relevant skills.	Courses displayed clearly with links; aligned to user's career suggestions.
US4	As a user, I want the quiz experience to be engaging and fun, so that I stay motivated to complete it.	Animated, gamified interface with progress tracking and immediate feedback for each question.
US5	As a stakeholder, I want to track user engagement, so that we can assess the effectiveness of the quiz and inform future improvements.	Basic analytics implemented to log completions, course clicks, and persona distributions.
US6	As a stakeholder, I want to see which persona results are most common so that I can refine course recommendations and product positioning.	Basic analytics implemented to track final persona distributions and course clicks.

## 6. Scope & MVP Definition

The MVP for the VisionVerse quiz focused on delivering a fully functional, engaging career guidance experience within the 16-week capstone timeframe. All core features were implemented to meet stakeholder requirements, while a few additional non-critical enhancements were developed by the team, presented to stakeholders, and ultimately implemented.

### 6.1. In-Scope Features (MVP)

- Proper quiz question flow, including interactive, personality-based questions.
- Results display featuring animal-based personas, recommended careers, Skillshare course suggestions, and a spider chart summarising personality strengths.
- UI implementation fully matching the Figma designs provided by VisionVerse.
- Language toggle allowing users to switch between English and Chinese.
- Analytics integration to capture user engagement and inform future improvements (highly desired but not explicitly mandatory for MVP).

### 6.2. Out-of-Scope Enhancements

- Background music and sound effects on button clicks.
- Expanded settings beyond basic language toggle.
- Implementation of UI elements to fill out padding on larger screens.
- Additional gamification enhancements or advanced analytics beyond MVP requirements.

## 7. Functional Requirements

The following table outlines the key functional requirements for the system, categorised into quiz logic, results logic, user interaction, and engagement analysis.

Category	ID	Description	Acceptance Criteria
FR-1 Quiz Navigation & Response	FR-1.1	The system shall display quiz questions to the user one at a time.	Given the user is on a quiz question page, when the page loads, then only one question is displayed visibly to the user.
	FR-1.2	The system shall require the user to select a response for the current question before proceeding to the next question.	Given the user is viewing a question without having selected an answer, when the user clicks the 'Next' (or equivalent) button, then the user remains on the current question page.
	FR-1.3	The system shall navigate the user sequentially from one question to the next upon submission of a valid response.	Given the user has selected an answer for the current question, when the user clicks one of the option buttons, then the system navigates to the next question (or results page if it's the last question).
FR-2 Results Calculation & Display	FR-2.1	The system shall associate each answer choice with one of the following predefined personality types: Realistic, Artistic, Social, Investigative, Enterprising, Conventional.	Given an answer option, when it is selected, then the system maps it to one corresponding personality type.
	FR-2.2	The system shall assign 1 point to the associated personality type when a user selects an answer.	Given a user selects an answer, when it is submitted, then 1 point is added to the corresponding personality type score.
	FR-2.3	The system shall calculate the total points for each personality type after the quiz is completed.	Given all questions have been answered, when results are processed, then each personality type has a total score.
	FR-2.4	The system shall display the selected personality result along with a predefined profile summary and related Skillshare course links.	Given the final result is selected, when the result page loads, then the user sees the profile summary and Skillshare course links.
FR-3 User Interaction Logging	FR-3.1	The system shall log quiz activity as they occur.	Given the user starts the quiz or proceeds to the next question, when the question loads, then the specific event is logged correctly.
	FR-3.2	The system shall ensure that no Personally Identifiable Information (PII) is included in the logged interaction data.	Given interaction events are logged, when the logged data is inspected, then it must not contain any user IP addresses,

			usernames, email addresses, or any other PII.
FR-4 Engagement Tracking & Analysis	FR-4.1	The system shall track the frequency of selected quiz answers to analyse user habits or tendencies.	Given a user selects a response to a quiz question, when they submit their answer, then the system records the selected response for analytic purposes in the database.
	FR-4.2	The system shall collect and store non-PII user interaction data.	Given non-PII user data is logged, when the logged data is inspected, then it must be stored in the database for analysis.

## 8. Non-Functional Requirements

The following table outlines the key non-functional requirements for the system, categorised into performance, safety, security, and software quality attributes.

Category	Requirement	Description
NFR-1 Performance	NFR-1.1 Response Time	Quiz interactions (question submission, navigation, and result generation) must have a response time of $\leq 1$ second under a standard broadband connection.
	NFR-1.2 Scalability	The system should support up to 1,000 concurrent users without degradation in performance.
	NFR-1.3 Availability	The quiz should be accessible at all times, except during scheduled maintenance.
	NFR-1.4 Load Handling	The system must handle peak traffic conditions with minimal latency increase ( $\leq 2$ seconds response time for up to 50,000 users per hour).
	NFR-1.5 Data Processing	User results and recommendations should be generated within $\leq 1$ second of completing the quiz.
NFR-2 Safety	NFR-2.1 Data Integrity	User responses and results must be securely stored to avoid loss or alteration due to system failures.
	NFR-2.2 Backup & Recovery	Automated backups must occur every 24 hours, with a RTO of 2 hours in case of failure.
	NFR-2.3 Content Moderation	The quiz must not generate or display offensive, misleading, or harmful content.
	NFR-2.4 Regulatory Compliance	The system must comply with relevant data protection laws (e.g., GDPR, CCPA) to protect user information.
NFR-3 Security	NFR-3.1 User Authentication	Users must verify their identity before accessing administrative features.



NFR-3 Security	NFR-3.2 Data Encryption	All user data must be encrypted in transit (TLS 1.2 or higher) and at rest (AES-256).
	NFR-3.3 Access Control	Different user roles (e.g., primary users, stakeholders, developers ) must have distinct access privileges.
	NFR-3.4 Audit Logging	All administrative actions and system changes must be logged and stored for at least 6 months.
	NFR-3.5 Third-Party Compliance	Any integrations with external services must comply with Skillshare's privacy policy and industry best practices.
NFR-4 Software Quality	NFR-4.1 Usability	The UI should be intuitive, requiring minimal learning curve.
	NFR-4.2 Reliability	The system should have a maximum downtime of 0.1% per month, with an MTBF of at least 1000 hours.
	NFR-4.3 Maintainability	Code should follow best practices and include at least 90% test coverage to facilitate debugging and updates.
	NFR-4.4 Interoperability	The system should be compatible with all major web browsers (Chrome, Firefox, Safari, Edge) and mobile devices.
	NFR-4.5 Scalability	The system must be designed for horizontal scaling to accommodate future growth.
	NFR-4.6 Flexibility	Future quiz modifications should require minimal developer effort.
	NFR-4.7 Testability	Manual and automated testing should cover all core functionalities, ensuring total functionality of the quiz.

## 9. Success Metrics

Success metrics were defined to evaluate both user engagement with the quiz and the team's effectiveness in delivering a high-quality MVP aligned with stakeholder expectations.

### 9.1. User-Facing Metrics

- Engagement tracking: Average time to completion, distribution of final result traits, language selection, and answer selection patterns to provide insight into user interactions and platform usage.
- Feature usability: UI/UX improvements guided by stakeholder feedback, including fixed button positions, loading screens, responsive design, and enhanced visual clarity.

### 9.2. Team & Stakeholder Metrics

- Timely delivery: Completion of MVP deliverables according to the 16-week project schedule.
- Stakeholder satisfaction: Incorporation of VisionVerse feedback throughout development to ensure alignment with expectations.
- Project organization: Effective task management and sprint tracking via Jira Kanban boards, supporting smooth workflow and coordination.

## 10. Constraints & Assumptions

This section outlines the key constraints that defined project boundaries and the assumptions made to guide planning, development, and delivery.

### 10.1. Constraints

- **Timeline:** MVP had to be delivered within 16 weeks.
- **Design Alignment:** Application UI was required to follow stakeholder-provided Figma designs.
- **Language Support:** Quiz was required to support both English and Chinese, with language selection available at the start screen.
- **Deployment:** The product had to be fully deployable and demonstrable to VisionVerse. Technology choices for development were flexible; the team selected React.js, Next.js, TypeScript, Node.js, and Tailwind CSS, with deployment on Vercel.

### 10.2. Assumptions

- **User Assumptions:** Users are expected to have internet access, basic literacy, and access to a compatible device (desktop or mobile).
- **Skillshare Integration:** Course recommendations simulated a partnership with Skillshare for demonstration purposes only.
- **Stakeholder Engagement:** Stakeholders would provide feedback within agreed timelines ( $\leq 72$  hours).
- **Team Resources:** All team members would generally be available for collaboration during the project period.
- **Scope Management:** The initial project scope was assumed to be fixed, with any new requests only considered after MVP delivery.
- **Data & Compliance:** Quiz did not collect personal data; all analytics captured were anonymized and assumed compliant with data protection standards (e.g., GDPR).

## 11. Roadmap & Future Enhancements

While the MVP met all core objectives and stakeholder requirements, several enhancements were identified during development or could be considered for future iterations to improve engagement, usability, and scalability:

### 11.1. Enhancements Implemented Beyond Original Scope

- Background music and sound effects to make the quiz more engaging.
- Settings dropdown allowing users to toggle music/sfx and switch language at any point.
- Animated GIFs displayed on larger screens to enhance visual appeal.

### 11.2. Potential Future Enhancements

- Expand analytics dashboard for deeper insights on user engagement and persona distributions.
- Additional error handling and validation for a more robust user experience.
- Support for more languages beyond English and Chinese.
- Increase the variety of quiz questions and career paths for broader personalisation.
- Potential integration with live partner platforms or resources once partnerships are established.

## 12. Team & Roles

The project was completed by a six-member development team, working collaboratively with stakeholders to deliver the MVP within 16 weeks. I acted as Project Co-Lead with a product management focus, coordinating the team, managing requirements, defining user stories, and ensuring alignment with stakeholder expectations throughout the project lifecycle.

Team Member	Role	Responsibilities
Ameer Ahmad	Project Co-Lead / Product Manager / Secondary Backend Developer	Led product planning, gathered requirements, defined user stories, managed backlog, coordinated development tasks, and liaised with VisionVerse stakeholders
Intarawat Thanundornwat	Project Co-Lead / Primary Backend Developer	Guided team, oversaw backend architecture, implemented server-side logic, and ensured database integration
Chaeah Park	Primary Frontend Developer	Developed interactive UI components, implemented quiz flow, and integrated animations
Kayla Richelle	Primary Frontend Developer	Designed and implemented responsive UI layouts and visual feedback for user engagement
James Hannan	Secondary Frontend Developer	Supported frontend development, assisted with UI testing and bug fixes
Gyuhoo Lee	Secondary Frontend Developer	Assisted with frontend coding, layout adjustments, and feature implementation

## 13. Appendices

### 13.1. Deployed Demo

A deployed demo of the quiz is available here: <https://skillshare-quiz-game.vercel.app/>

### 13.2. Final Quiz Screenshots

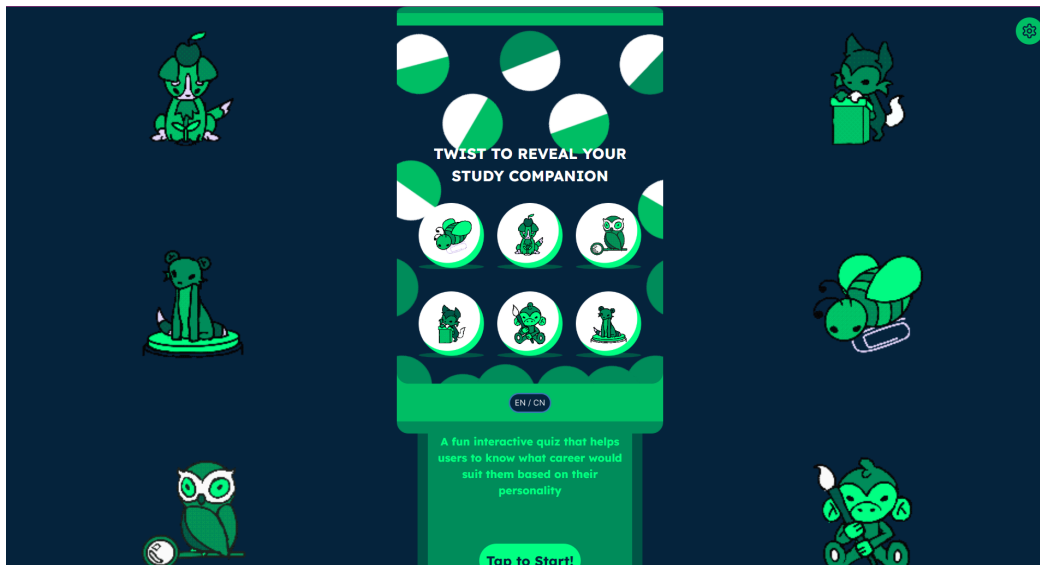


Fig 1. Start Page of Quiz

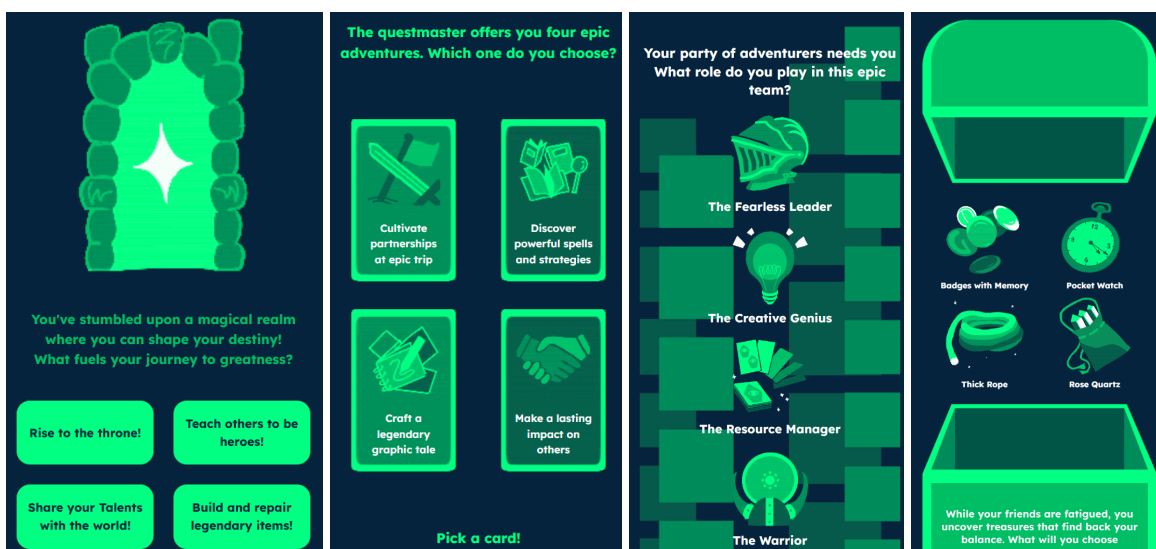


Fig 2. Question Styles  
(Simple, Card, Squares, Chest)



Fig 3. Results Page

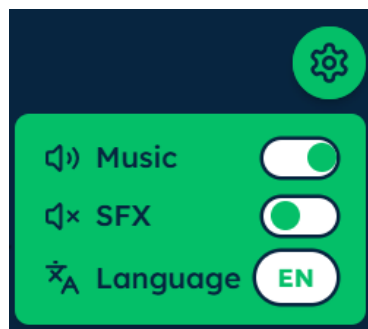


Fig 4. Settings Dropdown

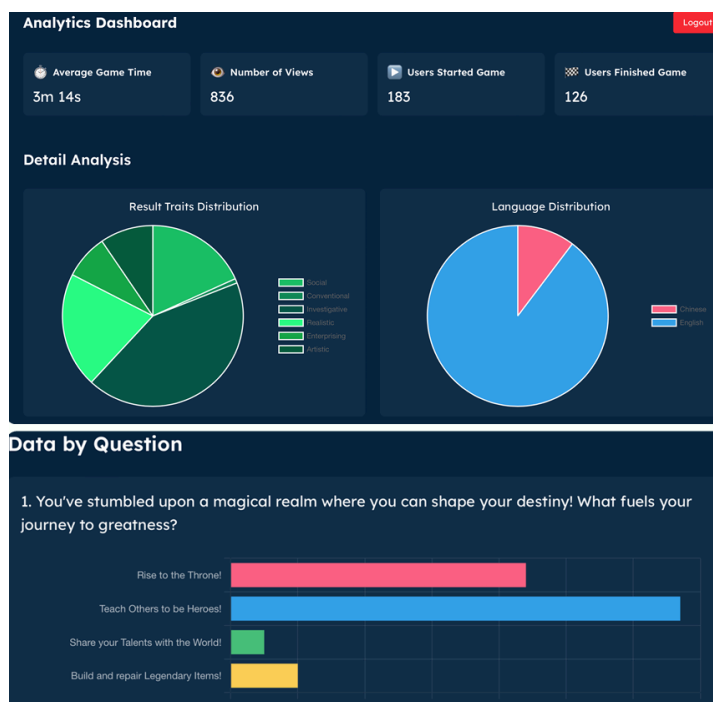


Fig 5. Analytics Dashboard

## 13.3. Additional Screenshots

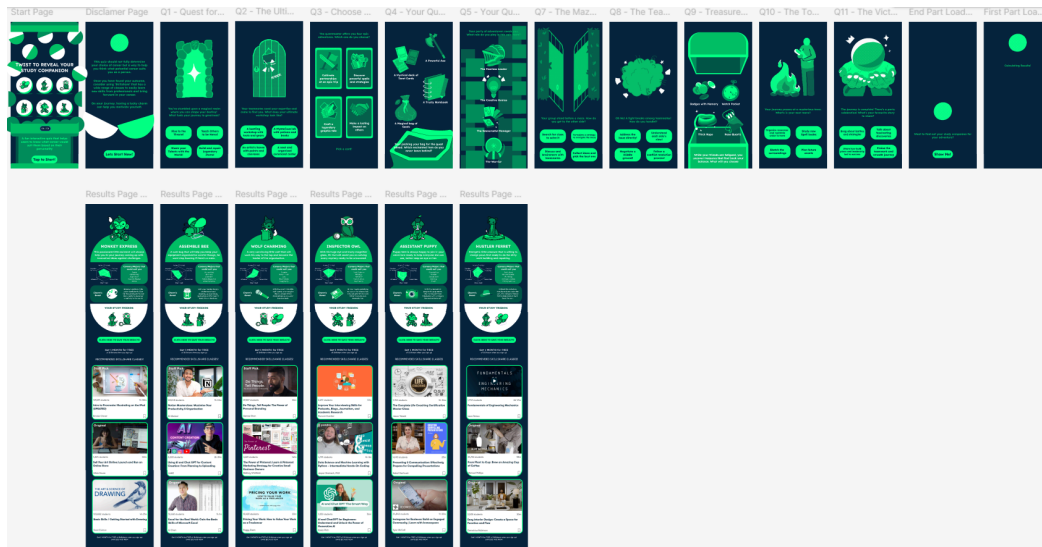


Fig 6. Figma Dashboard of Quiz UI

<input type="checkbox"/> <b>UI Refinement and Improvement</b> 5 May – 11 May (13 work items)			0 0 0	Complete sprint	...
Fix the Responsiveness issue when shrinking the screen in height/width.					
<input checked="" type="checkbox"/> SCRUM-185	Analytic Dashboard to match Zita requirement	ACCEPTED ✓	-	IT	
<input checked="" type="checkbox"/> SCRUM-176	Start Page (Vertical scale is not possible for responsive test in mobile)	ACCEPTED ✓	-	CP	
<input checked="" type="checkbox"/> SCRUM-184	Restart/Share Page, Fix the vertical scaling (When in Mobile L, the screen is scrollable, and w...	ACCEPTED ✓	-	CP	
<input checked="" type="checkbox"/> SCRUM-216	Settings UI	ACCEPTED ✓	-	AA	
<input checked="" type="checkbox"/> SCRUM-177	Disclaimer Page (When shrink in size, the page tends to move to the left)	ACCEPTED ✓	-	AA	
<input checked="" type="checkbox"/> SCRUM-217	Side Gifs UI	ACCEPTED ✓	-	AA	
<input checked="" type="checkbox"/> SCRUM-175	Setup custom breakpoint in TailwindCSS for (Desktop, Tablet, Mobile L, Mobile M, Mobile S)	ACCEPTED ✓	-	IT	
<input checked="" type="checkbox"/> SCRUM-181	Chest Question Page, Chest (Top and bottom) does not scale in height, text and icon also ne...	ACCEPTED ✓	-	CP	
<input checked="" type="checkbox"/> SCRUM-180	Squares Question Page, Text and Icon did not scale properly when shrink in width, scaling in...	ACCEPTED ✓	-	CP	
<input checked="" type="checkbox"/> SCRUM-178	Card Question Page (When the screen width shrink to some size (mobile S), the bottom part ...	ACCEPTED ✓	-	K	
<input checked="" type="checkbox"/> SCRUM-182	Loading Page, Text and Icon needs to be shrink to the proportion of the screen, Height is not...	ACCEPTED ✓	-	K	
<input checked="" type="checkbox"/> SCRUM-179	Sack Question Page (the Items (Choices) are squash with the sack, so maybe move it up wh...	ACCEPTED ✓	-	CP	
<input checked="" type="checkbox"/> SCRUM-183	Result Page, Fix the sizing of the Result chart with all the animal and text to scale to the size ...	ACCEPTED ✓	-	CP	

Fig 7. Sample Jira Backlog



## 13.4. Stakeholder Feedback Notes

Feedback Received	Action Taken
Question text and answer button positions change from question to question.	Updated UI to ensure all text and buttons had fixed positions question to question.
Implement a loading screen for smoother transition between question pages and the results page.	Implemented animated loading page before the results page is displayed.
Readability of question text for question 4 is poor.	The colour of question 4's text was changed from green to white to improve readability.
Music and sound effects need to be able to be turned on and off.	Implemented a settings dropdown fixed to the top right corner of the application to toggle music/sfx.
The application appears "empty" when viewed on larger screens.	Added animated gifs that appear on either side of the quiz when viewed on a large enough screen.
More data required for the analytics dashboard.	Added tracking of results distribution, individual question responses, average duration for quiz completion, etc.
Poor mobile responsiveness.	Adjusted CSS and layouts to enhance responsiveness of the application on mobile devices.
User testing has not begun yet.	A demo was deployed to enable user testing.
The question text for simple style is hard to read.	Increased font size for question text to improve readability.
The language change button on the start page is hard to read.	Changed the colour of the button to improve colour contrast and readability.
The spacing between Chinese text is too small.	Added more spacing in Chinese text to improve readability.

## 13.5. Documents/Deliverables

The following documents were produced throughout the project to support planning, development, testing, and stakeholder communication.

- Project Plan
- Requirements/Scoping Report
- System Design/Analysis Documentation
- Testing Documentation
- User Manual
- Team Retrospective