Department of Computer Science-UIBT

Document: Scope Management Plan

Project Title: Inquizitive Application

Team: CerebroSparks

Course: Software Project Management (CS-458)

Class/Section: BSCS-4th semester, section B

Members:

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Scope Management Plan

Project Overview:

The purpose of the inquizitive application is to reduce the manual workload of teachers by providing an application that automates quiz generation, distribution, grading, and performance tracking. Traditional methods of assessments are time-consuming and lack intelligent automation. Inquizitive addresses these challenges by integrating AI to assist in quiz generation, personalize quiz delivery for academic integrity, and generate real-time performance analytics, improving both teaching efficiency and student learning outcomes.

Scope Management Approach:

- How scope will be defined?

- Conduct requirement gathering sessions with teachers, students and stakeholders (interview, questionnaires, surveys).
- Key stakeholders (teachers, technical team) will be consulted to prioritize features.
- All requirements will be formally documented as functional (login, quiz generation, records etc) and non-functional (performance, security, accuracy etc) requirements.
- Write a clear scope statement with objectives and acceptance criteria.

- How scope will be verified?

- Deliverable Validation: Each deliverable matched against documented requirements.
- Checklists: Used to confirm all requirements and deliverables are completed.
- Milestone Reviews: Scope verified at key stages (requirements, design, development, QA).
- User Acceptance Testing (UAT): Teachers test real scenarios to ensure functionality meets expectations.

- How scope will be controlled and changes managed?

- Formal Change Request: Any new feature outside the approved scope must be formally requested.
- Change Control Board (CCB): The project team will review requests and assess impact on cost, time, and resources.
- Approval/Denial: Approved changes will be added to the plan, while rejected ones will be documented with reasons.

- Scope Re-Baselining: If approved, the scope baseline, WBS, and schedule will be updated.
- Monitoring & KPIs: Project progress will be continuously monitored against the baseline using KPIs.

Roles & Responsibilites:

Role	**Responsibilities**
Project Manager (Wajeeha Batool)	Define and manage project scope, approve changes, oversee delivery
Client (teacher/ students)	defines requirements, verifies deliverables against acceptance criteria
Business Analyst (CerebroSparks)	Gather/document requirements, ensure alignment with teacher's needs
Change Control Board (CerebroSparks)	Review and approve/reject requested scope changes
Developers (Usaid Ahmed, Anabiyah Ahmed, Shahana Mansoor)	Implement agreed scope requirements
QA Engineer (Fareeha Jawed)	Verify deliverables meet defined scope

Scope Definition Process:

- Conduct Requirement Sessions with Teachers:

- Organize interactive sessions (interviews, surveys, or questionnaires) with teachers to gather their needs.
- Focus on understanding how they create quizzes, grade them, and what challenges they face.
- Capture both current pain points (manual workload, cheating, repetitive work) and desired features (AI-based quiz generation, auto-grading, analytics dashboard).

- Document Functional and Non-Functional Requirements:

- Convert teacher and stakeholder input into a structured Requirements Specification Document.
- Functional Requirements: Features such as quiz generation, grading, dashboards, secure login, and student data storage.

- Non-Functional Requirements: Performance (speed), security (encryption, restricted access), usability (simple UI), and reliability (auto-save, uptime).

- Review Requirements with Stakeholders:

- Share the documented requirements with teachers and team members.
- Conduct walkthrough sessions to confirm accuracy and resolve conflicts.
- Use prioritization methods (MoSCoW: Must, Should, Could, Won't) to set scope boundaries.

- Finalize Requirements and Prepare a Scope Baseline:

- Once reviewed and approved, lock the requirements as the Scope Baseline.
- The Scope Baseline will include: Scope Statement(what is included/excluded), Work Breakdown Structure (WBS), WBS Dictionary (explanation of tasks).

Work Breakdown Structure (WBS) Development:

- Method: Top-down approach

Scope Verification Process:

- Unit and Integration Testing:

- Each module (backend APIs, frontend UI, AI quiz generator) will first be tested individually (unit testing).
- Then modules will be tested together (integration testing) to ensure smooth flow.

- User Acceptance Testing (UAT):

- Selected teachers will perform real tasks like creating quizzes, grading, and viewing analytics.
- Feedback collected using UAT forms.
- Success = ≥90% of UAT test cases pass.

- Final Walkthrough/Demo:

- A complete demo for stakeholders to validate deliverables.

- Acceptance Criteria:

- Requirements Sign-off (stakeholders confirm features match documented scope).
- QA Sign-off (testing team confirms stability and quality).
- Stakeholder Approval (teacher representatives formally approve).

Scope Change Control Process:

- All scope change requests must be formally documented using a Change Request Form (CRF), including details like requested feature, reason, and expected benefit.
- Each request will be reviewed by the Change Control Board (CerebroSparks).
- The CCB will evaluate the impact of the request on cost, timeline, resources, and project quality.
- If approved, the change will be incorporated into the updated project plan, and the scope baseline, WBS, and schedule will be revised accordingly.
- If rejected, the request will be documented with justification (e.g., budget limit, time constraints, or out-of-scope feature like LMS integration or multimedia).
- All stakeholders will be notified of the decision to ensure transparency and alignment.

Tools and Techniques:

- Project Documentation: (Google Drive)

- Central repository for storing design documents, test reports, and user manuals.
- Ensures all team members and stakeholders have access to the latest versions of documents.

- Communication: (Google Meet, Email)

- Google Meet: Used for weekly sync meetings, milestone reviews.
- Email: Used for formal updates, approvals, and stakeholder communications.

- Project Tracking: (Task Breakdown & Milestone Schedule)

- Work is tracked using an internal task breakdown aligned with the WBS.
- Milestones (Requirements Approval, Design Freeze, Development Completion, QA Sign-off, Go-Live) will be monitored to ensure project stays on schedule.

- Development Tools: (AI Libraries & Hosting Services)

- AI Libraries/Frameworks: Used for quiz generation, natural language processing, and evaluation of answers.
- Hosting Services: Web server setup for deployment and student/teacher access.
- Development Environment: Backend (APIs), frontend (UI dashboards), and version control tools for efficient collaboration.

Scope Management Metrics:

100% delivery of defined deliverables within budget (PKR 20K)

Faculty adoption ≥ 50%

Positive feedback ≥ 85% from users

Quiz accuracy ≥ 90%

Data Security Compliance = 100%

Training/documentation coverage = 100%

Timeline Adherence ≥ 95%