**ZenQuest – Cyrus Lau**

**What is the purpose of your program? Who are your end users?**

**Purpose:**

ZenQuest is a gamified productivity website that transforms daily tasks and habits into an engaging RPG experience. Users can complete quests (tasks), earn XP and coins, level up, and purchase equipment to enhance their stats. My program combines task management with game mechanics to motivate users to maintain consistent habits.

**End Users:**

* Students who want to gamify their study routines and assignments
* Individuals struggling to form habits
* Productivity enthusiasts who enjoy RPG mechanics
* Anyone looking for a fun alternative to traditional to-do list applications

**What are the program requirements? What are the requirements and needs of your end users?**

**Key Requirements:**

* Quest management system: users need to be able to create, track and complete different types of tasks (daily quests, habits, main quests, side quests)
* RPG elements: Level system, XP gains, health mechanics, coins
* Gamified rewards: Coin earning system, equipment purchases, stat bonuses
* Focus tools: Pomodoro timer for focused work sessions
* Progress tracking: Comprehensive user statistics tracking and a guide for the website
* Responsive design: Works on mobile and desktop devices
* Data Persistence: User progress saved across sessions on the same browser using localStorage

**What will your MVP (minimum viable product) look like?**

Must have:

* Quest creation system for daily, main, and side quests
* Habit tracking with positive/negative mechanics
* Basic RPG stats (HP, XP, Level, Coins, Crit)
* Market with purchasable items & inventory to store and use items
* Pomodoro timer functionality
* User profile with comprehensive statistics and instructions for the website

**Decomposition (Breakdown of Components)**

(& Decomposition card in Trello: <https://trello.com/b/hnU8ma5N/zenquest>)

**Component One: User Input & Interaction**

Input methods:

* Text input fields: Users type quest descriptions, habit names
* Date pickers: Setting due dates for main quests
* Dropdown menus: Selecting habit types (positive/negative)
* Button clicks: Completing quests, purchasing items, starting timers
* Navigation: Page switching between Quests, Market, Inventory, User (Focus! takes user to pomodoro timer in Quest page)

Interaction:

* Quest completion: Click checkboxes to complete quests
* Equipment management: Purchase items from market, equip/unequip weapons/equipment and use potions in inventory
* Timer controls: Start/stop/reset Pomodoro sessions
* Real-time Updates: Live stat updates, progress bars, countdown timers

**Component Two: Output & Visual Feedback**

Display elements:

* HUD system: Health bars, XP progress, level display, coin counter
* Quest lists: Organized task displays with completion status
* User stats: Comprehensive user progress metrics
* Market interface: Item catalog with prices, stats, and descriptions
* Inventory management: Owned items, equipment slots, stat bonuses
* Visual notifications: Success messages, level-up alerts, death notifications
* Progress indicators: Completion percentages, countdown timers, progress bars

**Component Three: Libraries & Modules**

Libraries used:

* Notyf - <https://cdn.jsdelivr.net/npm/notyf@3/notyf.min.js>
  + Toast notifications for user feedback
  + E.g. quest completion (rewards) pop-ups, level-up message, death message, purchasing/equipping/using items, deleting quests/custom rewards, selling items, etc.
* GSAP - <https://cdnjs.cloudflare.com/ajax/libs/gsap/3.12.2/gsap.min.js>
  + Advanced animations and transitions
  + E.g. smooth UI animations, stat counter animations, page transitions, market & inventory item transitions
* SortableJS - <https://cdn.jsdelivr.net/npm/sortablejs@1.15.0/Sortable.min.js>
  + Drag-and-drop functionality
  + E.g. allows users to drag and drop quests to reorder them by priority/however they want
* ScrollTrigger (GSAP Plugin) - <https://cdnjs.cloudflare.com/ajax/libs/gsap/3.12.2/ScrollTrigger.min.js>
  + Scroll-based animations
  + E.g. trigger subtle scroll reveal animation as user scrolls through each page
* Particles.js - <https://cdn.jsdelivr.net/particles.js/2.0.0/particles.min.js>
  + Background particle effects
  + E.g. Animated background elements (floating squares) for visual appeal
* CustomEase (GSAP Plugin) - <https://cdnjs.cloudflare.com/ajax/libs/gsap/3.12.2/CustomEase.min.js>
  + Custom animation easing functions
  + Smooth, natural-feeling animations

**Component Four: UI Components & Pages**

UI Components:

* Navigation system: Top and bottom navigation bars with pixel-art styling
* HUD elements: Health/XP bars, level badges, coin displays, mini-HUD system
* Modal systems: Item stat display, detailed item views
* Progress bars: Quest completion, daily progress, stat progression
* Timer interface: Circular Pomodoro timer with visual progress
* Responsive grid layouts: Adaptive content organization for different screen sizes

Page Structure:

* index.html - Main quest management page with daily quests, habits, main/side quests, Pomodoro timer
* market.html - Item purchasing interface with weapons, equipment, potions
* inventory.html - Item management, equipment system, stat viewing
* user.html - Comprehensive statistics, character profile, game guide

**Component Five: External Files & Assets**

Image Assets:

* Icons: Quest types, UI elements, navigation buttons (48 different icons)
* Item images: Weapons, armor, potions, equipment illustrations
* Backgrounds: Day/night cycle backgrounds, page-specific themes
* Animations: GIF files for Pomodoro timer, flame effects

Font Files:

* Minecraft & PixelCraft font: Custom pixel-art typography for authentic RPG feel
* Web fonts: Fallback fonts for compatibility

**Component Six: Final MVP Achievement**

Successfully Implemented Features:

Core Quest System:

* Daily quest creation and completion with 5-quest daily requirement
* Habit tracking with positive/negative mechanics affecting HP/XP
* Main quests with due date system and time-based urgency
* Side quests with random quest generation capability

RPG Mechanics:

* Complete leveling system with XP requirements scaling by level
* Health system with death penalties and regeneration
* Comprehensive stat system (HP, XP, Coins, Critical Chance)
* Equipment bonuses affecting all core stats

Market & Inventory System:

* 13 weapons with unique stats and descriptions
* 5 equipment pieces with owned/equipped bonus system
* 6 different potions including temporary boost potions
* Full inventory management with equip/unequip functionality

Advanced Features:

* Pomodoro timer with focus/break cycles and session tracking
* Boost indicator showing active potion effects with countdown
* Comprehensive statistics page with quest completion tracking
* Responsive design working on mobile and desktop
* Data persistence across browser sessions

User Experience:

* Professional pixel-art UI with consistent theming
* Real-time stat updates and progress tracking
* Visual feedback for all user actions
* Mobile-optimized interface with zoom prevention
* Comprehensive game guide and instructions
* Final Achievement: A fully functional gamified productivity platform that successfully motivates users through RPG mechanics while providing practical task management tools. The application demonstrates professional-level web development with advanced JavaScript programming, responsive CSS design, and comprehensive user experience design.