Software Masters

Vision Document

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1. Introduction

1.1 Purpose

The purpose of this document is to define and analyze the high-level requirements and features of the Wheel of Jeopardy game system. This document outlines the vision for the Wheel of Jeopardy system by identifying the capabilities and needs of the project's key stakeholders and users.

1.2 Scope

This Vision Document applies to the Wheel of Jeopardy game system, which will be developed by Software Masters. Software Masters will develop the system as a Java application. The Wheel of Jeopardy game system will enable two or more users to play against one another in the Wheel of Jeopardy game via a Java application.

1.3 Definitions, Acronyms & Abbreviations

- WoJ - Wheel of Jeopardy
- *Wheel of Fortune* - U.S. game show where contestants compete against one another to solve word puzzles in attempts to win prizes determined by spinning a giant wheel.
- *Jeopardy!* - U.S. game show where contestants are given clues in the form of answers and must give the answer to those clues in the form of a question. Questions categories and values are determined by the *Jeopardy!* Board; more difficult questions are valued higher.

2. Positioning

2.1 Business Opportunity

Fans and viewers of televised game show programs often like to participate alongside the contestants on the show at home, by trying to solve the puzzles, answer the questions, or strategize as they watch. As many of these viewers will not have a chance to actually participate in these game shows, there has been a growing demand for at-home versions of these game shows that anyone can participate in and play against others. Specifically, this project aims to

capitalize on the specific game show viewership of both *Wheel of Fortune* and *Jeopardy!* Software Masters has recognized that these two game shows share many of the same viewers due to their consecutive air times on ABC, and instead of replicating each of these games individually, plans to combine the best aspects of both games into a single software application entitled Wheel of Jeopardy. This application will allow users to be an active participant in the "game show" from the comfort and convenience of their own home as well as continue to enjoy these programs long after they have aired.

2.2 Problem Statement

The problem of	people not being able to directly participate in televised game shows
affects	fans and viewers of the *Wheel of Fortune* and *Jeopardy!* game shows
The impact of which is	feelings of frustration or disconnect while watching or after the shows have finished
A successful solution would be	a simple computer application that combines the *Wheel of Fortune* and *Jeopardy!* game shows and allows at-home viewers to play, feel engaged, and enjoy the shows long after they've finished airing.

2.3 Product Position Statement

For	game enthusiasts and fans of the *Wheel of Fortune* and *Jeopardy!* game shows
Who	play games, watch the game shows, or like to compete
The Wheel of Jeopardy	is a software application
That	provides users with a unique platform on which they can play the Wheel of Jeopardy game against others and compete to

	win
Unlike	currently available game applications that do not provide a game that incorporates aspects of both the *Wheel of Fortune* and *Jeopardy!* game shows
Our product	combines the best of two classic game shows into one easy-to-use and interactive computer game. This is accomplished by including both the wheel and question board into the game mechanics, multiplayer functionality, and other features.

3. Stakeholder & User Descriptions

3.1 Stakeholder Summary

Direct stakeholders for the project include all members of the Software Masters team and the course instructors who represent project sponsors. Together, these key stakeholders determine the requirements of the Wheel of Jeopardy project and are responsible for its success. Secondary stakeholders include members of the general public who are potential end users of the software.

3.2 User Summary

Users for this project include anyone utilizing the Wheel of Jeopardy game. This will include the individuals playing the game (spinning the wheel and answering questions) as well as the person creating/adding the questions for the game.

3.3 User Environment

This project will require the users to have access to a computer with a screen, keyboard, and mouse. The user will typically play the game in their home environment on their personal computers, but other users may make use of public spaces with free access to computers, such as the library. Games will be played to a maximum of 50 turns, with a time limit placed on each turn, regardless of the number of players.

3.4 Stakeholder (non-user) Profiles

Role	Name	Major Responsibilities
Lead Configuration Management Engineer	Rachel Glockenmeier	Track and control software changes
Lead Software Quality Assurance Engineer	Marc Julian	Ensure software meets project standards and requirements
Lead Tester	Rob Miceli	Develop and implement software tests
Lead Programmer	John Parrish	Write code to implement the software design
Lead Architect	Melisa Satili	Develop the high-level design of the software
Project Manager	Heather Zellner	Ensure the project stays on schedule
Project Sponsors	Joe Demasco, Sam Schappelle	Provide description of user requirements and feedback and guidance as needed

3.5 User Profiles

Role	Major Responsibilities
Game Player	Plays the game by spinning the wheel and answering questions from the game
Question Creator	Creates and inputs the questions for the other users to answer

3.6 Key Stakeholder Goals/Needs

Goals of the Software Masters team include:

1. Identify and meet all functional and nonfunctional requirements of the Wheel of Jeopardy
2. Deliver all work products on schedule
3. Learn about and successfully implement all phases of the software development process
4. Create an outstanding software product that is easy to use, fun to play, and bug-free
5. Earn an "A" grade for the project

Goals of the Project Sponsors include:
1. Provide clear descriptions of requirements and expectations
2. See evidence of effective teaching strategies reflected in the project and work product grades

3.7 User Goals/Needs

Goals of the Game Players include:
1. Game mechanics and interface operation that is easy to understand
2. Reliable game operation
3. Learn from the questions presented in the game
4. Have fun while playing

Goals of the Question Creator include:
1. The ability to easily add questions
2. Reliable game operation
3. See the game players learning and having fun

4. Product Overview

4.1 Summary of Capabilities

The product, Wheel of Jeopardy, is an interactive trivia game that combines the *Wheel of Fortune* and *Jeopardy!* game shows. The main components of the game are the wheel, the question board, the user controls, and the scoreboard. A preliminary layout of these components is shown in Figure 1.

- **Wheel**: The wheel will have a similar layout to the *Wheel of Fortune* wheel, except instead of dollar amounts or prizes, it will contain the categories on the *Jeopardy!* Board. It will also contain a "lose a turn", "free turn", "bankrupt", "player's choice", "opponents' choice", and "spin again" sectors.

- **Question board**: The question board will contain six categories that contain five questions each. The more difficult questions will be worth more points.
- **User controls**: To interact with the game, the user will be able to press a button to spin the wheel, and to enter text into a field to answer questions. Under certain circumstances, a pop-up box will prompt the player for action. For example, when the wheel lands on the "player's choice" sector, the pop-up will allow the player to select a category from the question board.
- **Scoreboard**: The scoreboard will display each player's score, the round (first or second), the free turns that each player has, the number of remaining wheel spins, and the time remaining to answer the question.
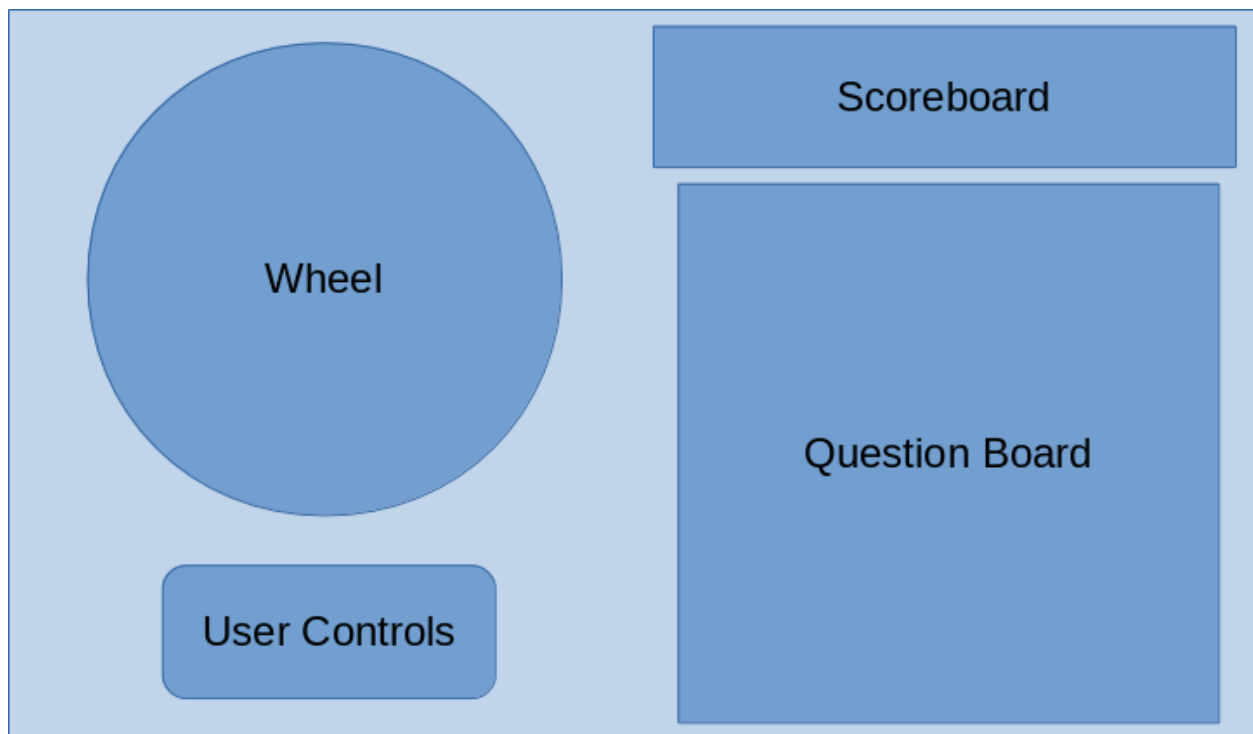

Figure 1: Preliminary layout of product components.

Gameplay will begin by selecting the number of players, then the first player will spin the wheel. Depending on which sector of the wheel comes up, the player will either get the chance to answer a question, lose a turn, or spin again. The initial product will have all users share the same interface, i.e., the game will be run on one computer and the players will share the controls when it is their turn. The game will continue until all the questions on the board are answered or after the wheel has been spun more than 50 times.

Optionally, before the game starts, the user will be able to edit the categories and the questions. The product will allow the user to manage the question library with a simple user interface with options to add a new category, delete a current category, or edit the questions in a current category.

4.2 Assumptions and Dependencies

1. The default language of the Wheel of Jeopardy system will be English (US). Users are assumed to be fluent enough in English to understand the GUI controls and trivia questions.
2. The system requires the use of a computer with a screen, keyboard, and mouse. It is assumed that users of the system will not need special assistance or extra features to play the game, such as a text to speech feature.
3. The game depends on a computer system that supports Java applications and has the latest version of Java installed.

5. Product Features

Wheel of Jeopardy is a trivia game with an element of chance. It combines the best aspects of Wheel of Fortune and Jeopardy with the all the features that users require of a modern cloud-based game:

- **Cross-platform**: WoJ is available on multiple platforms including desktop, Android and iOS, so players can compete against all of their friends.
- **Easy-to-use**: WoJ has a simple user interface, so anyone can just pick it up and play.
- **Expanding catalog**: WoJ is always being improved with new questions, UI enhancements, etc., so players will keep coming back for the next challenge.
- **Matchmaking**: WoJ can match players with other players who want to start a new game.
- **Non-intrusive game play**: Players drive the pace of the game—the spin of the wheel starts a turn and when the player's turn is over, the game waits for the next player to go.
- **Monetization**: WoJ makes use of advertising platforms to generate revenue for the stakeholders.
- **Ad-free option**: Users who hate ads can buy the ad-free, premium version of WoJ.

6. Constraints

The constraints for this project fall under several different categories. For this project, we must be aware of three different types of constraints. Those constraints are schedule, scope, and resource constraints.

6.1 Schedule Constraints

The schedule constraints that we will need to be concerned with for this project is the short time frame given to us and the varying schedules of each individual team members. The project time frame falls just under 10 weeks. The short time frame limits Team Software Masters capabilities of incorporating all of the desired features of the WoJ game. Since we are given such a short time frame, we must focus on the minimal requirements needed for the game to function. Our team is also limited in the amount of time that can be dedicated to the development of the project. We have an allotted 9 person-hours a week to be dedicated to the project but it makes it difficult to dedicate more for team collaboration due to our conflicting schedules and geographical locations.

6.2 Scope Constraints

The scope constraints are that the game must follow the same mechanics as the game shows *Jeopardy!* and *Wheel of Fortune*. The game must have a wheel to determine categories, points and actions that will occur. Then there must be certain categories of questions that must be answered for the players. This limits the amount of customization in the game mechanics that can go into the game.

6.3 Resource Constraints

The Software Masters team is also limited by the availability of people and software resources. Only six team members will work on the project, and no additional workers can be added if the project falls behind schedule. The team also does not have a budget, so it is limited to free and open-source tools for project planning and developing the software. We are also restricted to a programming language that all team members have experience with as everyone will be involved in programming the application.