

# Project 2

## StoryQuest - Interactive Storytelling Adventure

### 1 Project Introduction

StoryQuest is an interactive storytelling adventure game where players make choices that shape the storyline. Each decision leads to different branches and multiple endings, encouraging replayability.

Players can track their story path, save progress, and discover alternate outcomes. The game is built using React with Hooks, follows the Functional Programming Paradigm, and stores progress using Firestore.

### 2 Business Requirements

#### Goal:

StoryQuest is an interactive storytelling adventure game where players make choices that shape the storyline. Each decision leads to different branches and multiple endings, allowing users to explore various paths and outcomes. The game will save user progress, track their choices, and provide a visual representation of the story path, encouraging replayability.

#### Key Features:

- **Story Selection** – Players can choose from multiple story genres (e.g., fantasy, sci-fi, mystery).
- **Branching Choices** – Every decision affects the storyline, leading to different paths and endings.
- **Multiple Endings** – Users can replay the story to explore alternate outcomes.
- **Progress Tracking** – Saves user choices and allows them to continue from their last decision.
- **Story Path Visualization** – A simple UI showing the choices taken and how they branch.
- **Firestore Storage** – Stores user choices, progress, and unlocked endings.

Legend: ■ for nouns, ■ for verbs

### 3 Nouns-Verbs

#### Nouns:

- StoryQuest
- storytelling adventure game
- players
- choices
- storyline

- decision
- branches
- endings
- paths
- outcomes
- progress
- choices
- representation
- replayability
- story genres
- UI
- choices
- progress
- unlocked endings

### **Verbs:**

- shape
- leads
- allow
- explore
- save
- track
- provide
- encourage
- choose
- affect
- replay
- alternate
- saves
- continue
- showing
- stores

## **4 Target Audience**

- Interactive fiction enthusiasts - Who enjoy making choices that impact the storyline.
- Casual gamers - Looking for an engaging yet simple adventure experience.
- Story-driven players - Who want to explore different endings.
- People who enjoy replayable content and choice-driven narratives.

## **5 Rules<sup>1</sup>**

- Players start by choosing a story from a variety of genres.

- Each decision changes the storyline, leading to different branches and endings.
- Once a choice is made, it cannot be undone - players must play again to explore alternative paths.
- Progress is automatically saved, allowing players to continue later.
- Players can track their choices and endings through a visual story path.

## 6 Challenge Questions

- How can we design a modular story system so that new stories can be easily added?
- What is the best way to dynamically visualize branching paths?
- How can we optimize Firestore to effectively track user choices and progress?
- What features can increase player immersion and decision impact?
- How can we introduce unlockables to increase replayability?

## 7 Modules

- **App (Main Component)**  
Manages navigation and story selection.  
Associates with StoryManager when a story is chosen.
- **StoryManager**  
Controls story progression based on user choices.  
Aggregates StoryScreen for displaying story content.  
Associates with ProgressManager to load/save progress.
- **StoryScreen**  
Displays the current story scene.  
Aggregates ChoiceButtons for user decisions.
- **ChoiceButtons**  
Renders buttons for user choices.  
Calls StoryManager to update the story.
- **ProgressManager**  
Stores and retrieves user progress from Firestore.  
Associates with Firestore Database.
- **Firestore Database**  
Stores user choices and progress persistently.

## 8 Use Cases

### User Personas & User Stories<sup>2</sup>

- **New Player - First-Time Explorer**

- Age: 25
- Background: A new player who is experiencing interactive storytelling for the first time. They want an intuitive and engaging way to start their adventure.
- Dimensions:  
Story Selection Intent: Wants an easy way to browse and start a story.  
Guidance Needs: Prefers a clear introduction to how the game works.
- User Stories:
  - (1) Selecting a Story  
As a new player, I want to browse and select a story from a list so that I can begin my adventure with a storyline of my choice.
  - (2) Understanding the Game Mechanics  
As a new player, I want a tutorial or instructions when I start my first story so that I can understand how to play the game.
  - (3) Experimenting with Choices  
As a new player, I want to be able to see the immediate consequences of my choices so that I can learn how my decisions affect the story.
  - (4) Restarting Easily  
As a new player, I want an easy way to restart the story so that I can try different choices without confusion.

- **Returning Player - Story Enthusiast**

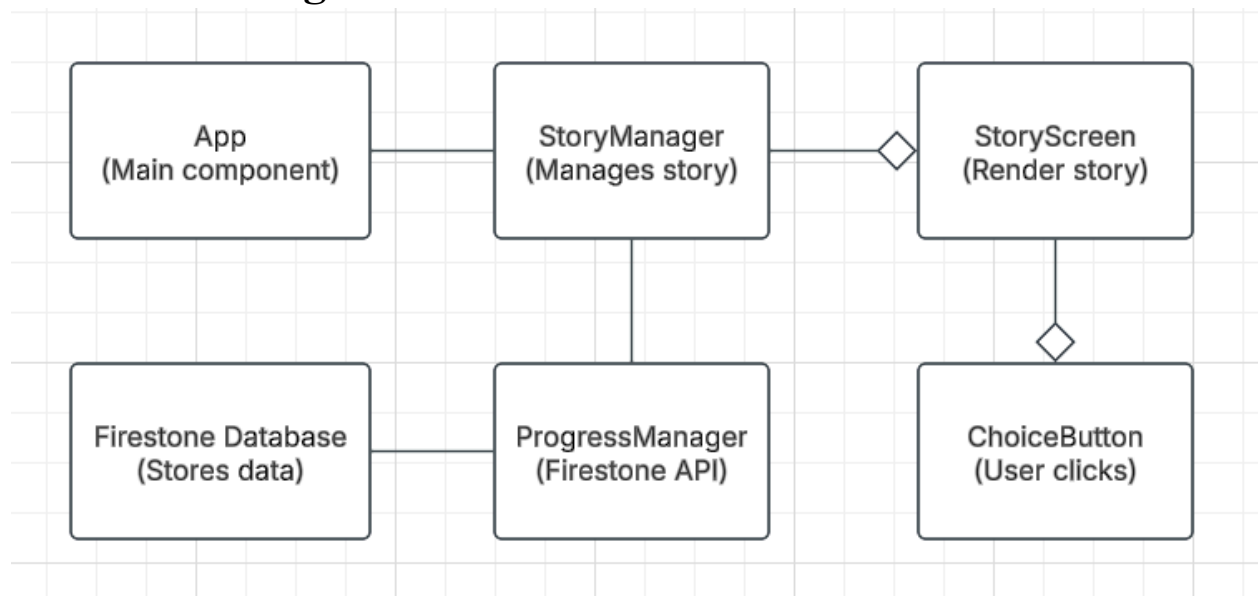
- Age: 30
- Background: A returning player who enjoys making decisions and seeing how they influence the story.
- Dimensions:  
Decision-Making Experience: Wants choices that lead to meaningful changes in the story.  
Story Progression Interest: Likes to see the impact of their past decisions.
- User Stories:
  - (5) Making Choices to Advance the Story  
As a returning player, I want to make meaningful choices that impact the story so that I feel in control of the narrative.
  - (6) Saving and Restoring Progress  
As a returning player, I want my progress to be saved automatically so that I can return later and continue from where I left off.
  - (7) Discovering Hidden Storylines  
As a returning player, I want to explore hidden choices or secret paths so that I can uncover unexpected storylines.

- **Completionist - Ending Collector**

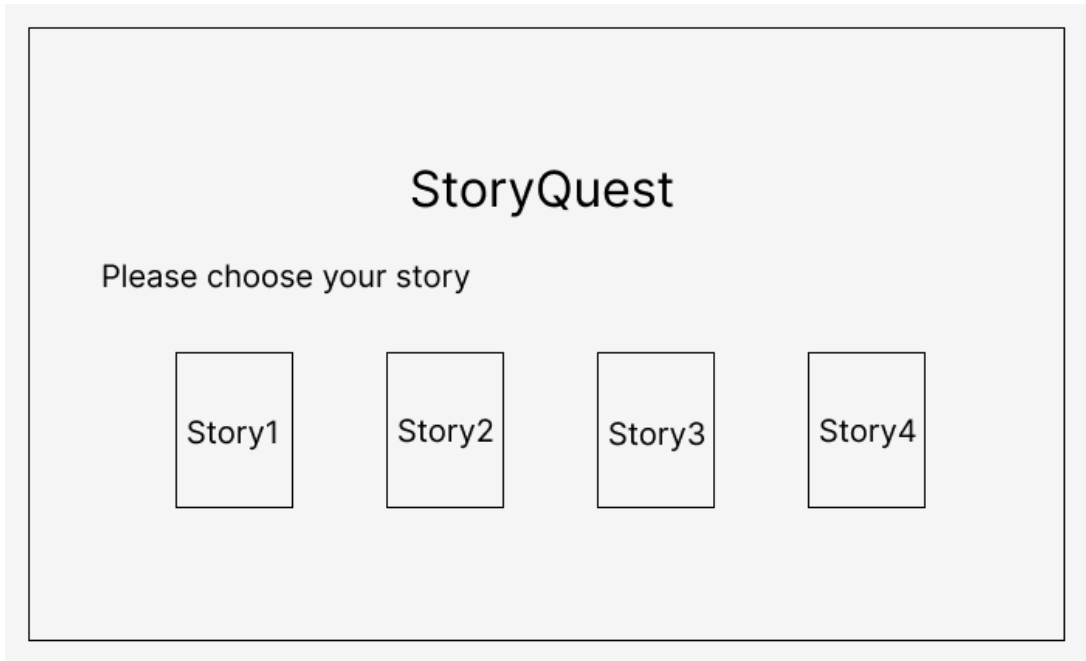
- Age: 32
- Background: A player who enjoys unlocking all possible endings and fully exploring the narrative.

- Dimensions:  
Replayability Interest: Wants to replay the game and explore different story branches.  
Completionist Goals: Likes to track all unlocked endings and paths.
- User Stories:  
(8) Viewing Story Paths and Choices  
As a completionist, I want to see a visual representation of my choices so that I can understand how my decisions influenced the story.  
(9) Unlocking Multiple Endings  
As a completionist, I want to replay the story and make different choices so that I can unlock alternate endings and fully explore the narrative.  
(10) Tracking My Progress  
As a completionist, I want a progress tracker that shows how many endings I've unlocked so that I know what's left to discover.

## 9 Modules Diagram



## 10 Interface Mockups



User story 1 - Start the game



User story 2 - Game tutorial and instructions

# StoryQuest

## Story1

Choice 1

Choice 2

Choice 3

Choice 4

Restart

User story 3, 4 - Make the choice and restart

# StoryQuest

## Story1

Choice 1

Choice 2

Choice 3

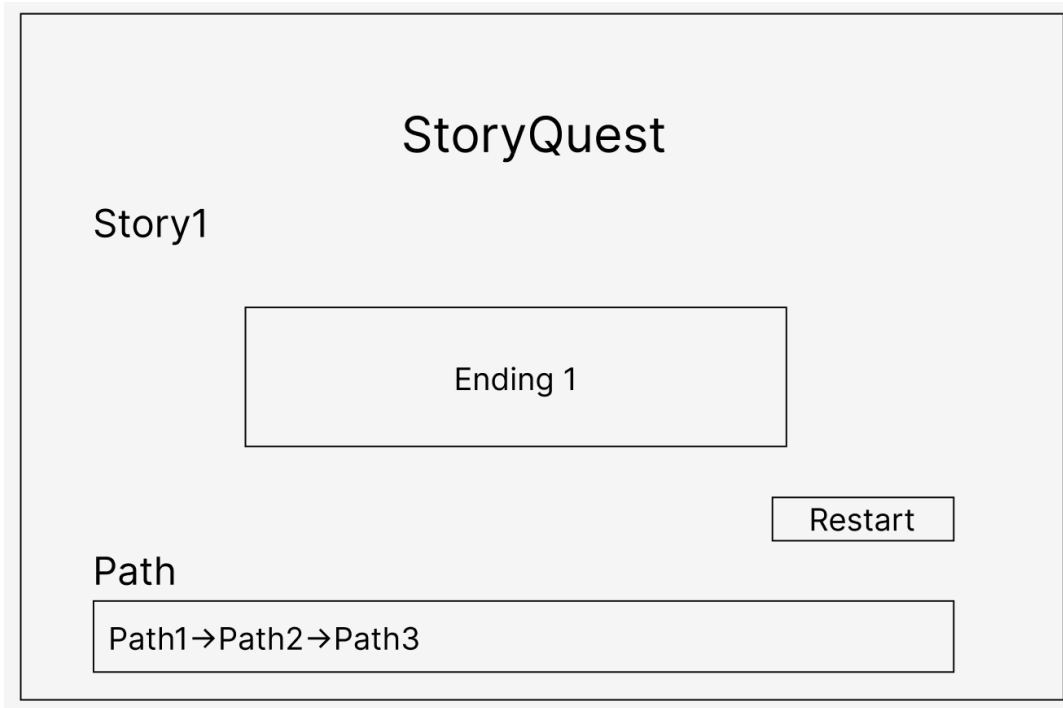
Choice 4

Restart

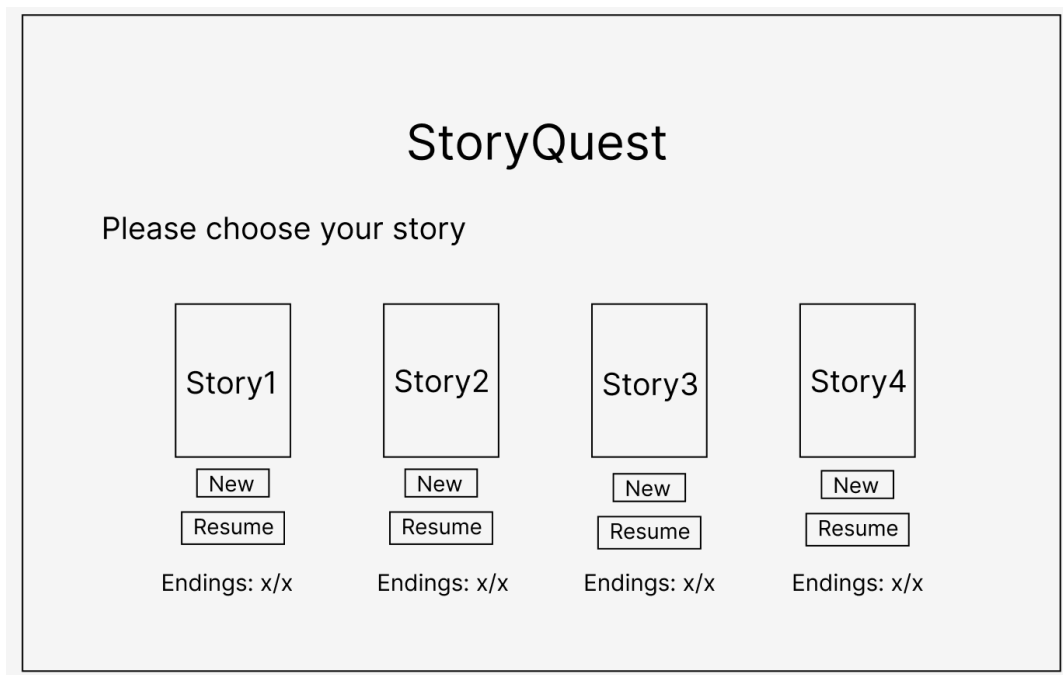
## Path

Path1→Path2→Path3

User story 5, 7 - Make the choice by past paths



User story 8, 9 - Game Ending



User story 6, 10 - Check the status of stories and new/resume game



## 11 Links

Modules Diagram:

[https://lucid.app/lucidchart/0b3de2d8-1ebf-47ab-ac12-2ff5906f0b67/edit?viewport\\_loc=-432%2C-76%2C2217%2C1092%2C0\\_0&invitationId=inv\\_74cef52b-fd53-432a-b1df-80f6ee463989](https://lucid.app/lucidchart/0b3de2d8-1ebf-47ab-ac12-2ff5906f0b67/edit?viewport_loc=-432%2C-76%2C2217%2C1092%2C0_0&invitationId=inv_74cef52b-fd53-432a-b1df-80f6ee463989)

Interface Mockups:

<https://www.figma.com/design/C2wUCrvW3aC10LOcCIWjoK/Project2?node-id=0-1&t=6GffqFLwBUzs66Sd-1>

## 12 Acknowledgment

I used ChatGPT4 to help me build this project and clarify some new concepts and methods as well as generate the examples.

### Prompt1:

There is my business requirement, can you help me to generate the rules?

### Response:

There are some rules

- Players start by choosing a story from a variety of genres.
- Each decision changes the storyline, leading to different branches and endings.
- Once a choice is made, it cannot be undone - players must play again to explore alternative paths.
- ...

### Check:

I checked the answer and select some rules. I also add some rules of this part.

### Prompt2:

Can you help me to generate some user stories for this persona?

New Player - First-Time Explorer

Age: 25

Background: A new player who is experiencing interactive storytelling for the first time.

They want an intuitive and engaging way to start their adventure.

Dimensions:

Story Selection Intent: Wants an easy way to browse and start a story.

Guidance Needs: Prefers a clear introduction to how the game works.

### Response:

There are some user stories:

### (1) Selecting a Story

As a new player, I want to browse and select a story from a list so that I can begin my adventure with a storyline of my choice.

### (2) Understanding the Game Mechanics

As a new player, I want a tutorial or instructions when I start my first story so that I can understand how to play the game.

### (3) Experimenting with Choices

As a new player, I want to be able to see the immediate consequences of my choices so that I can learn how my decisions affect the story.

### **Check:**

I checked these user stories and do some modifications and add more stories of this personas.

### **Prompt3:**

How can I build a react app?

### **Response:**

Building a React app involves several steps, from setting up your development environment to writing and running your React components. Here's a step-by-step guide:

#### 1. Install Node.js and npm

React requires Node.js and npm (Node Package Manager) to manage dependencies.

Download and install Node.js from [nodejs.org](https://nodejs.org)

Verify installation by running:

```
node -v
```

```
npm -v
```

#### 2. Create a New React App

The easiest way to create a new React app is using Vite (faster) or Create React App (CRA).

#### Option 1: Using Vite (Recommended)

Vite is much faster and more efficient.

...

**Check:**

I learned how to build a react app and follow the instructions to build a react frame for this project.

**Prompt4:**

What is the Firestore and how to use it?

**Response:**

What is Firestore?

Firestore (also known as Cloud Firestore) is a NoSQL, cloud-hosted database from Firebase (Google Cloud Platform) designed for scalable and real-time applications.

**Key Features of Firestore**

NoSQL Document Database - Data is stored in documents and collections instead of tables and rows.

Real-Time Synchronization - Automatically updates data across connected devices.

Scalability - Handles large-scale applications with ease.

Offline Support - Data can be cached and accessed even when offline.

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**Check:**

I learned the concept of Firestore and how to use this tool. It will help me to build this project and store the data easily.