

Computer Science
COC251
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**Creating a knowledge base
for The Binding of Isaac**

by

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Abstract

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List of Acronyms

HTTP Hyper-Text Transfer Protocol

Chapter 1

Introduction

1.1 Problem Definiton

Item interactions are an important mechanic of most modern roguelike/roguelite games, including The Binding of Isaac. However, with hundreds of items, each with a handful of good or bad interactions, it is nearly impossible to effectively remember them all. Graph databases are purpose-built to store and navigate relationships.[1] The ouput of this project will be a web application that leverages this feature of graph databases to allow users to query item interactions in The Binding of Isaac.

1.2 Aims and Objectives

The goal of this project is to make querying item interactions in The Binding of Isaac quicker and easier by using graph databases. Users will also be able to update the data in the database to ensure it matches any changes in the game.

The aims of the project are to:

1. Create a graph database containing relevant data about The Binding of Isaac.
2. Develop a web application that utilises a graph database to helps users to find item interactions in the game.
3. Explore testing methodologies to aid in producing a stable application with high quality code.
4. Search for possible ways to extend the project with future updates.

1.3 Risks and Constraints

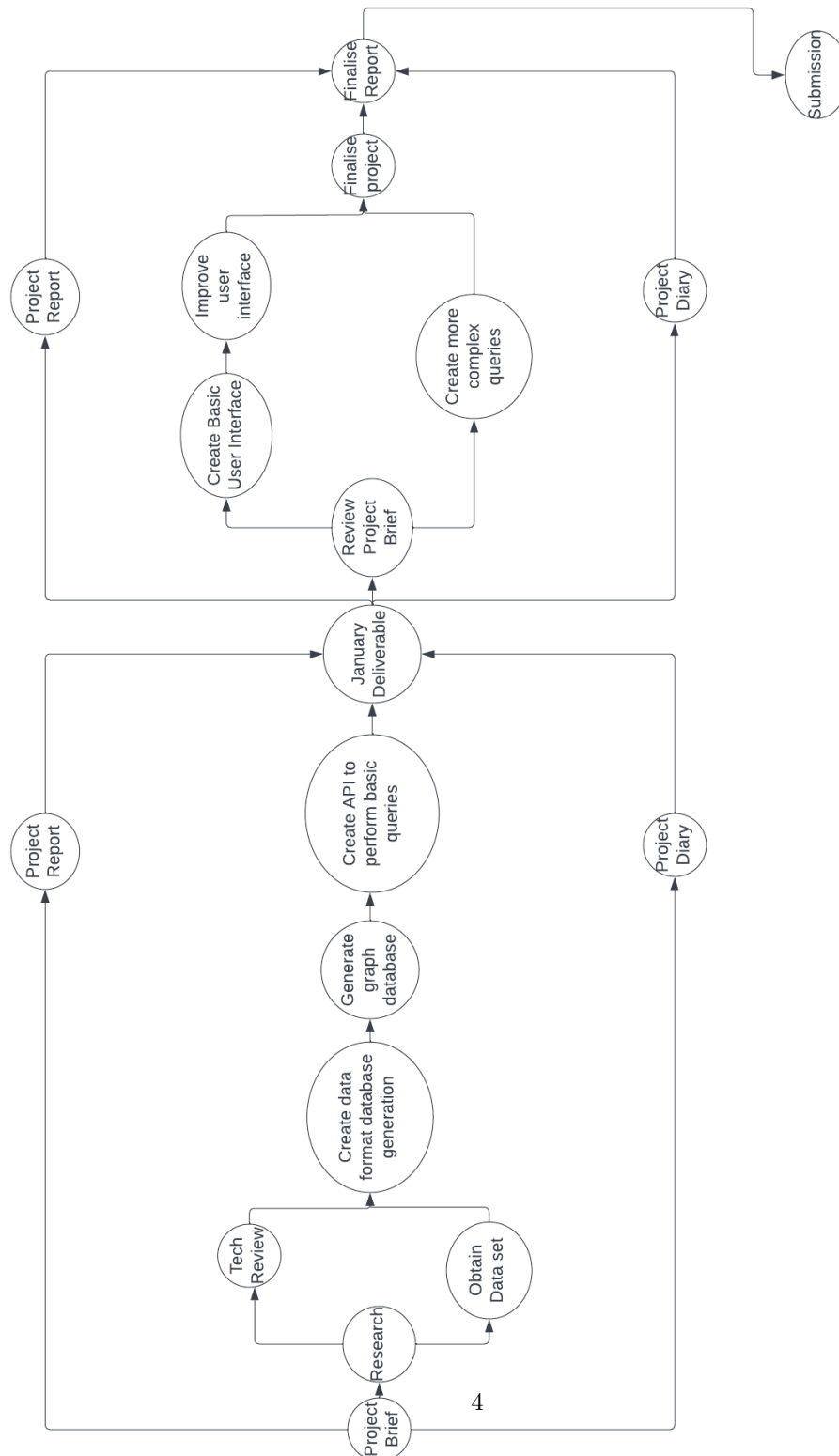
Cost

This project has no budget and so any services used in the development of the application will need to be free.

Dataset Availability

The data needed to create the database may become unavailable or unuseable.

1.4 Project Plan



Chapter 2

Background

2.1 Introduction

2.2 Existing Solutions

Fandom Wiki

Platinmum God

2.3 Technology Review

2.3.1 Database

2.3.2 Client Side Framework

2.3.3 Server Side Framework

2.3.4 Hosting

AWS

Azure

Google Cloud

2.3.5 CI/CD

GitHub

CircleCI

Jenkins

2.4 Conclusion

Chapter 3

Requirements

3.1 Introduction

3.2 User Requirements

3.3 System Requirements

3.4 Wireframes

3.5 Conclusion

Chapter 4

Design

4.1 Introduction

4.2 System Design

4.3 User Interface Design

4.4 Conclusion

Chapter 5

Implementation

5.1 Introduction

5.2 Tools

5.2.1 IDE

5.2.2 Version Control

5.2.3 Project Management

5.2.4 Database Visualisation

5.2.5 Hosting

5.2.6 CI/CD

5.2.7 Testing

Postman

Look at what testing frameworks can be used

5.2.8 Libraries

5.2.9 Client Side

5.2.10 Server Side

5.3 Data Processing

5.4 Database Interacion

5.5 Client Side

5.6 Conlcusion

Chapter 6

Testing

6.1 Introduction

6.1.1 Functionality Testing

6.1.2 Non-Functionality Testing

6.2 Conclusion

Chapter 7

Evaluation

7.1 Introduction

7.2 Project Evaluation

7.3 Future Work

7.4 Lessons Learned

7.5 Conclusion

Appendix A

Appendix

References

- [1] *What Is a Graph Database?* Amazon Web Services, Inc. URL: <https://aws.amazon.com/nosql/graph/> (visited on 01/06/2023).