

Vivekanand Education Society's Institute of Technology



Department of Computer Engineering

Group No.: 45

Date :- 02/08/2024

Project Synopsis Template (2024-25) - Sem VII

GameSpec Advisor

Mr. Richard Joseph

Professor, CMPN

Ayush Rakesh Gerra

V.E.S.I.T

2021.ayush.gerra@ves.ac.in

Anisha Sunil Rohra

V.E.S.I.T

2021.anisha.rohra@ves.ac.in

Manan Dadlani

V.E.S.I.T

2021.manan.dadlani@ves.ac.in

Meet Kewalramani

V.E.S.I.T

2021.meet.kewalramani@ves.ac.in

Abstract

The project aims to develop a comprehensive platform that extracts and analyzes system requirements for games from various sources. It will help the user build custom system stacks that support the requirements of the requested game. It will assess compatibility between the components using the data from various benchmark sources. The platform will also provide insights into pre-built and trending configurations, perform feature correlation analysis, and conduct association rule mining for hardware components. Additionally, it will offer a PC health check, driver recommendations, and guidance on starting with gaming.

Introduction

With the gaming industry growing rapidly, the demand for optimal gaming setups has surged. Gamers and tech enthusiasts often seek reliable information about system requirements, hardware compatibility, and the latest trends in gaming configurations. This project aims to consolidate this information, analyze it, and provide actionable insights to users. By leveraging data from multiple sources and advanced analytical techniques, the platform will serve as a valuable resource for both novice and experienced gamers.

Problem Statement

Identifying and configuring the right gaming setup can be challenging due to the vast array of components and configurations available. Users often face difficulties in understanding system requirements, compatibility issues, and the latest trends in hardware. There is a need for a platform that can provide comprehensive analysis and guidance, making it easier for users to make informed decisions.

Proposed Solution

The proposed solution is a platform that extracts system requirements from gaming platforms (Steam, Epic Games, Games of Galaxy) and analyzes compatibility using data from YouTube transcripts, GPU user benchmarks, and hardware reviews. The platform will provide:

1. Pre-built configurations analysis
2. Trending configurations analysis
3. Hardware review from YouTube
4. Compatibility checks for custom builds
5. Recommendations for components
6. PC Health Checks
7. Driver recommendations based on OS
8. Static website on "How to get started with gaming?"

Methodology / Block Diagram

1. Data Extraction: Scrape system requirements from Steam, Epic Games, and Games of Galaxy.
2. Data Processing: Extract captions, perform sentiment analysis, and identify key features.
3. Configuration Analysis: Analyze pre-built and trending configurations.
4. Feature Correlation: Build a feature correlation matrix for hardware components.
5. Compatibility Analysis: Use YouTube transcripts, GPU benchmarks, hardware reviews, and feature correlation matrix for compatibility checks.

6. Association Rule Mining: Identify associations between components.
7. PC Health Check: Evaluate system health and suggest optimizations.
8. Driver Recommendations: Provide links for drivers based on the user's OS.
9. Website Development: Create a static website for gaming setup guidance.

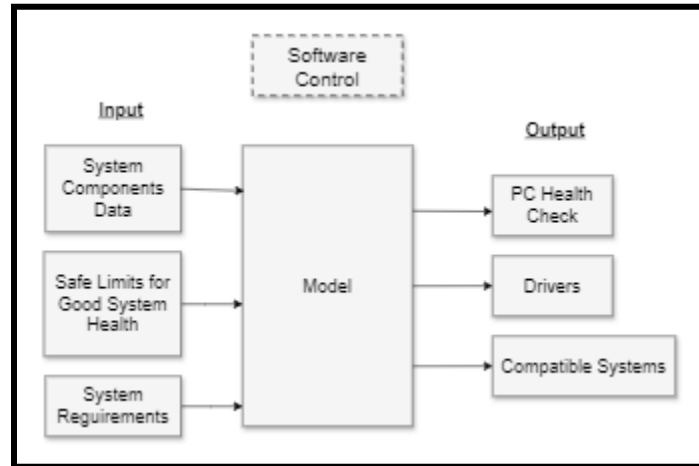


Fig.: Block Diagram

Hardware, Software, and Tools Requirements

- Hardware: Servers for data storage and processing.
- Software: Web scraping tools, NLP libraries, machine learning frameworks, web development tools.
- Tools: Python, BeautifulSoup, Selenium, TensorFlow, Keras, PyTorch, HTML, CSS, JavaScript.

Proposed Evaluation Measures

- Accuracy of Data Extraction: Validate the extracted system requirements and hardware reviews.
- Compatibility Check Performance: Measure the accuracy of compatibility predictions.
- User Feedback: Gather user feedback on the platform's usability and insights.
- System Performance: Evaluate the system's response time and processing efficiency.
- User Engagement: Track the usage statistics and engagement levels on the static website.

Conclusion

This project aims to simplify the process of building and optimizing gaming setups by providing a comprehensive platform for analyzing system requirements, hardware

compatibility, and trends. By leveraging data from multiple sources and employing advanced analytical techniques, the platform will offer valuable insights and guidance to users, making it easier for them to make informed decisions.

References

- <https://store.steampowered.com/>
- <https://store.epicgames.com/en-US/>
- <https://www.gog.com/en>
- <https://www.youtube.com/c/jayztwocents>
- <https://www.youtube.com/channel/UCXuqSBIHAE6Xw-yeJA0Tunw>
- <https://www.tomshardware.com/>
- <https://www.primeabgb.com/>