OlymPC: Utilizing Descriptive Analytics and Rule-Based Algorithms for Hardware Compatibility and Product Recommendations for Pc Builders & Tech Specialists

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ABSTRACT

This study presents OlymPC, a web-based application designed to streamline the process of assembling custom personal computers by integrating descriptive analytics and rule-based algorithms to evaluate hardware compatibility and generate tailored product recommendations. The system assists users by automatically validating selected components, identifying incompatibilities, and suggesting optimized alternatives based on performance requirements and budget considerations. By reducing the need for extensive manual research, OlymPC serves as a practical tool for beginners, hobbyists, students, technicians, and independent builders seeking a more guided and reliable approach to PC configuration. Data were gathered through survey questionnaires, interviews, and observational analysis of existing PC-building platforms to identify user needs, challenges, and system requirements.

Developed using PHP, hosted locally via XAMPP, and supported by a MySQL backend, the system utilizes accessible and adaptable technologies suited for web-based environments. To ensure its effectiveness and reliability, OlymPC is assessed using the ISO/IEC 25010:2011 software quality standards, focusing on functionality, usability, reliability, efficiency, and maintainability. A total of 80 users and 20 technical experts participated in the evaluation, collectively indicating that the platform performs strongly across all assessed quality attributes. Respondents highlighted its accurate compatibility checks, intuitive navigation flow, responsive interface behavior, stable operation, and structurally maintainable design.

The findings confirm that OlymPC successfully fulfills its primary purpose of guiding users toward building compatible and performance-optimized PC setups. User feedback emphasized the system's clarity and ease of use, while technical respondents validated its robust architecture and dependability. These results affirm the system's capacity to support both novice and experienced builders, increasing confidence in component selection and reducing configuration-related errors.

To enhance the application further, the study recommends expanding and continuously updating the hardware database, ideally through API-driven data integration with hardware suppliers. Future iterations may also benefit from ongoing evaluations, periodic updates, and the incorporation of adaptive or AI-driven algorithms to enable more dynamic and personalized recommendation outputs. Establishing a long-term maintenance plan focused on scalability, bug resolution, and system enhancements is also advised to preserve system quality over time. Addressing these recommendations will allow future developers to refine OlymPC into a more comprehensive, efficient, and user-centered decision-support tool for the PC-building community.

Keywords: Descriptive Analytics; Rule-Based Algorithms; Hardware Compatibility; Product Recommendation System; PC Building; ISO/IEC 25010; PHP; MySQL; Web-Based Application; System Evaluation

INTRODUCTION

The increasing interest in custom-built personal computers has drawn a diverse range of users—from gamers and students to professionals seeking optimized performance. Despite this rising demand, many individuals remain hesitant to assemble their own systems due to the complexity of understanding hardware specifications,

compatibility requirements, and configuration constraints. Existing research has shown that a user's confidence and technical literacy significantly influence their willingness to adopt digital tools or make technology-related decisions. Without structured guidance, the process of selecting components often becomes overwhelming for beginners, leading to confusion, errors in judgment, and in some cases, unnecessary expenses caused by incompatible hardware purchases.

Current online resources provide only partial solutions. Platforms such as PCPartPicker and NewEgg primarily function as product catalogs with basic validation features, offering limited instructional support for inexperienced builders. Community-based spaces like Reddit or online forums may offer advice, but the quality and accuracy of responses are inconsistent, unverified, and difficult for beginners to filter. Previous attempts to simplify PC building—such as third-party spreadsheets, browser extensions, or offline tools—also struggle with issues of limited scalability, manual data entry, or lack of real-time guidance. These gaps highlight the need for a unified, reliable system capable of delivering accurate compatibility information and structured assistance throughout the building process.

In response to these challenges, the study proposes the development of OlymPC, a web-based platform that integrates a curated hardware catalog with deterministic rule-based algorithms and descriptive analytics. The system validates component selections in real time, identifies compatibility conflicts, provides cost and performance insights, and suggests optimized alternatives based on user preferences. Unlike machine learning approaches, rule-based algorithms offer transparency and predictable behavior—qualities essential for applications where accuracy and explainability are critical. Through simplified feedback, analytical summaries, and guided recommendations, the platform aims to reduce uncertainty and improve decision-making for both novice and experienced builders.

The need for such a systems tems from the absence of comprehensive platforms that simultaneously offer compatibility verification, educational support, and structured guidance. The study therefore focuses on designing a system that empowers users to confidently build custom PCs by integrating intuitive interfaces, real-time compatibility checks, informational resources, and a component storefront tailored to user-selected configurations. By aligning with ISO 25010 software quality characteristics, the platform aims to ensure usability, functionality, and reliability, ultimately addressing long-standing challenges faced by PC builders.

Scope

The mainly focuses on the design and development of OlymPC, a web-based platform that integrates compatibility checking, educational support, and online shopping for custom PC building. The scope is divided into two primary perspectives: Admins and For Users.

Limitation

While the proposed system aims to simplify and enhance the PC-building process, it is subject to several limitations. First, the platform's hardware database will depend heavily on the availability of stock and supplier partnerships, which may restrict the breadth and timeliness of component listings. Second, the complexity of implementing advanced features, such as real-time compatibility validation and multi-service integration, may exceed the resource capabilities of the development team. This limitation could delay the system's full deployment or require compromises in functionality. Finally, the proposed platform carries potential risks in user adoption, particularly among its target demographic of novice builders. Some users may still perceive the platform as too technical or overwhelming, despite its guided features, and others may remain hesitant to rely on a digital system for decision-making. These constraints highlight the need for careful implementation, phased development, and ongoing refinement to ensure that OlymPC achieves its intended purpose.

Theoretical Framework

The deployment of OlymPC is anchored in the intersection of rule-based algorithm design, descriptive analytics, and Decision Support System (DSS) theory, all of which emphasize deterministic logic, structured data processing, and guided decision-making. These theoretical foundations ensure that the platform remains

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transparent, computationally efficient, and reliable for both novice and experienced PC builders. It consists of the Rule-Based Algorithm Design, Descriptive Analytics, Decision Support System (DSS) Theory, and Deterministic vs Probabilistic Models.

Conceptual Framework

The conceptual framework for OlymPC is structured around the Input-Process-Output-Feedback (IPOF) Model, a common structure for understanding how systems receive data, transform it through internal operations, and produce user-centered results. This model helps visualize how different components of the system interrelate and work together to deliver value to the end-user.

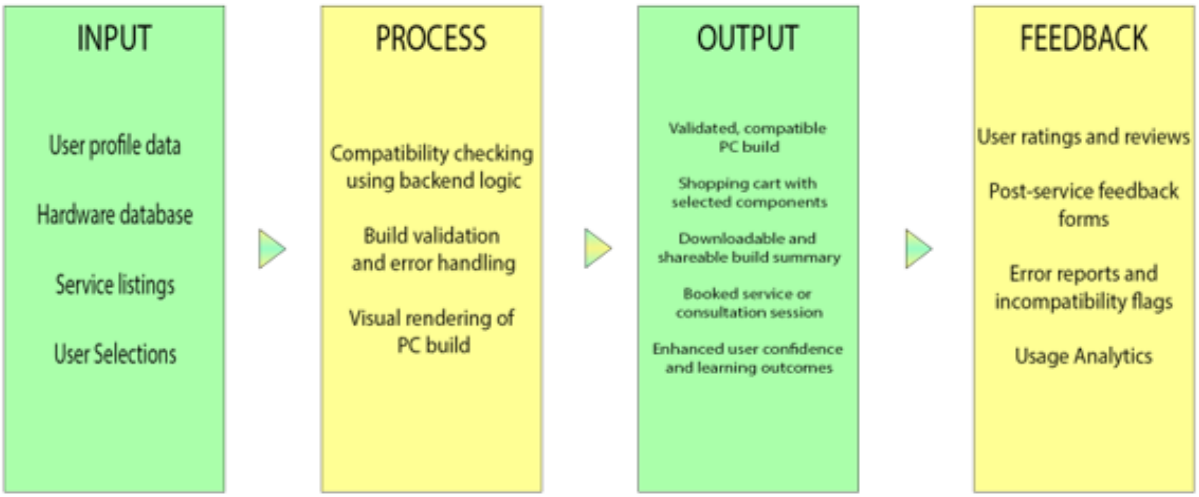

Figure 1: Input-Process-Output-Feedback Model

The framework reflects the cyclical nature of OlymPC's functionality: users provide input, preferences, needs), the system processes the input through logic-driven and human-assisted modules, and the user receives personalized input (builds, orders, services). The process is iterative, allowing for continuous refinement, learning, and improvement.

Significance of the Study

The study is expected to benefit the following groups:

- *Administrators* – The proposed system provides a manageable and user-friendly platform that simplifies user interaction, service management, and data monitoring. It allows administrators to oversee operations, maintain the hardware database, and track user feedback for continuous improvement.

- *Students and Professors* – The system can serve as an educational tool for students in information technology or computer-related courses. It allows hands-on exploration of component compatibility, system building, and real-time validation, making it useful for both practical exercises and classroom demonstrations.

- Future Researchers - This study may serve as a reference for future research or system development projects involving e-commerce, user-centered design, hardware compatibility algorithms, or integrated support platforms. The documented processes and conceptual framework can guide enhancements or new innovations in related fields.

REVIEW OF RELATED LITERATURE

International literature consistently highlights the importance of algorithm-driven decision support and visualization tools in helping users navigate complex technical tasks. Patel (2025) emphasized how data dashboards and visual summaries significantly enhance comprehension, noting that users make better decisions when information is converted into intuitive visual formats. This is especially relevant to systems like OlymPC,

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which must clearly present metrics such as power draw, costs, and potential performance bottlenecks. Likewise, Wisbey et al. (2024) differentiated between machine learning models and deterministic rule-based systems, arguing that rule-based methods excel in transparency, predictability, and ease of maintenance—all essential qualities for tools aimed at beginners. In addition, the work of Pira et al. (2014) on rule-based expert system verification underscored the necessity of detecting logical conflicts and ensuring rule consistency to maintain system reliability. Together, these studies provide the theoretical groundwork supporting OlymPC's emphasis on visualization, deterministic logic, and validated rule structures.

Research abroad has also demonstrated the practical use of compatibility-checking tools and recommendation engines. Mishra (2021) designed a system capable of recommending PC components and checking compatibility, but the study leaned on broad validation methods rather than strict rule-based logic—highlighting an area that OlymPC improves through explicit constraint-based processing. Yoon et al. (2012) introduced the use of dependency graphs to manage compatibility relationships in dynamic systems, offering a scalable model for handling intricate hardware dependencies. More recently, Zhang et al. (2022) explored hybrid approaches that combine rule-based insights with adaptive learning to generate improved product recommendations in e-commerce settings. While OlymPC purposefully centers on deterministic logic for clarity and explainability, Zhang's work offers potential inspiration for future enhancements involving adaptive features once the core system is fully established.

Within the Philippine scholarly landscape, literature frequently focuses on how digital platforms can improve consumer decision-making. Local discussions in IT journals highlight that Filipino users are more likely to adopt technological tools when interfaces emphasize clarity, transparency, and trustworthiness. Studies also point out that visual summaries and simplified decision workflows reduce uncertainty during online purchases. Additionally, local literature often stresses the relevance of ISO 25010 quality attributes—particularly usability, compatibility, and reliability—as criteria for assessing system performance. Although these works do not directly examine PC-building platforms, they reinforce the importance of user-centered design in systems intended to simplify complex technical processes, aligning with OlymPC's goal of guiding inexperienced builders through structured, visual, and rule-driven assistance.

Local academic projects demonstrate Philippine researchers' interest in using intelligent systems to enhance consumer interaction and support decision-making. Several university theses have implemented rule-based systems for domains such as medical diagnostics, vehicle assessment, or academic advising, illustrating the practicality and acceptance of rule-based approaches within the local context. These studies highlight the value of transparency—users respond positively to systems that clearly explain their outputs. Meanwhile, local e-commerce research frequently explores the difficulties Filipino consumers face, such as low technical literacy and uncertainty when selecting products online. These challenges mirror those encountered in PC building, where users often struggle with compatibility concerns and rely heavily on informal community advice. Drawing insight from these local studies allows OlymPC to better address the needs of Filipino users who may be interested in PC assembly but remain intimidated by the complexity involved.

Synthesis

The reviewed literature and studies—both foreign and local—converge on several important themes. First, visualization and descriptive analytics are proven to improve decision-making by simplifying complex data, which supports OlymPC's focus on graphical summaries of builds. Second, rule-based algorithms stand out as a reliable and transparent method for ensuring compatibility, validated by both theoretical discussions abroad and practical systems tested locally. Third, decision support systems—whether applied in e-commerce or technical fields—demonstrate that user confidence is closely tied to clarity, accuracy, and guided support. While foreign studies provide technical depth in compatibility validation and recommendation systems, local literature and studies highlight the importance of usability, consumer trust, and system reliability in Philippine contexts. Taken together, these works form a foundation for OlymPC's development, which integrates deterministic algorithms, descriptive analytics, and support services into a single platform designed to empower novice and expert PC builders alike.

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METHODOLOGY OF THE STUDY

This study adopts a developmental research design, which is appropriate for projects that require the creation, refinement, and evaluation of a functional system. The method aligns with the study's goal of developing OlymPC, a web-based platform designed to assist users in building custom computers by providing guided recommendations, compatibility checks, and support services. Developmental research enables iterative improvement as the system progresses from conceptualization to implementation and testing.

The researchers utilized both primary and secondary data sources to support the system's development and evaluation.

Primary Data

- Survey Questionnaire – Distributed to users with experience or interest in PC building to gather insights on habits, challenges, and desired features.
- Interviews – Conducted with potential users, IT professionals, and stakeholders to obtain qualitative perspectives on common compatibility issues and system expectations.
- Observational Analysis – Existing platforms such as PCPartPicker and NewEgg were examined to benchmark usability and identify weak points that OlymPC could address.

Secondary Data

- Manufacturer datasheets and vendor specifications provided validated technical information used in building the compatibility rules.
- Academic and professional literature related to expert systems, descriptive analytics, and decision-support tools strengthened the theoretical foundation of the system's functionality.

The study utilizes the Agile Software Development Life Cycle, specifically the Scrum framework, to promote iterative progress and continuous feedback.

Figure 2: The SDLC Agile Model

Development Phases

1. Requirements Gathering – System goals and user needs were identified through surveys, interviews, and platform observations.
2. Sprint Planning – Backlogs, tasks, and sprint deliverables were organized and prioritized.
3. System Design – Wireframes, architectural diagrams, and workflow charts were created.

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4. Development – Core features such as the compatibility checker, recommendation module, and user/admin interfaces were coded.

5. Testing – Each sprint underwent unit testing, integration testing, and user acceptance testing to ensure stability and correctness.

6. Deployment – A functioning version of OlymPC was hosted on a live server for evaluation.

7. Maintenance – Continuous updates, bug fixes, and content revisions were applied after deployment.

The system utilizes a Relational Database Management System (RDBMS) implemented through MySQL, selected for its reliability, web compatibility, and open-source availability. This structure supports efficient storage of hardware specifications, user activity logs, vendor information, and compatibility rules. Its relational nature ensures normalized data, logical integrity, and efficient implementation of rule-based validation.

The context diagram presents a high-level overview of OlymPC and its interactions with external entities. It outlines the system's boundaries and illustrates how users and administrators exchange information with the platform. The diagram highlights data flows related to user profiles, hardware components, build records, vendor details, and support requests. This conceptual view clarifies the system's operational scope without exposing internal processes.

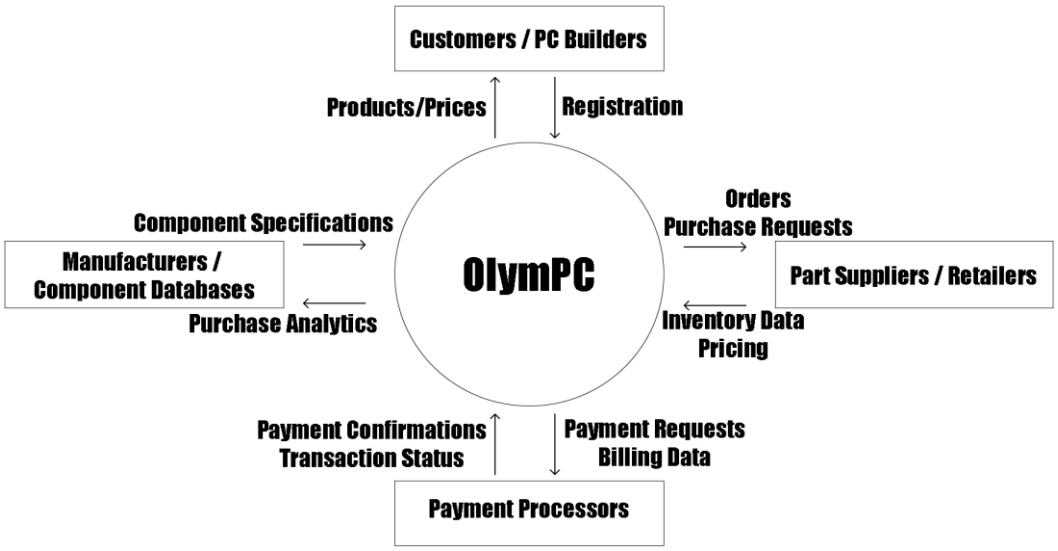

Figure 3: Context Diagram

Respondents of the Study

The study engaged two distinct respondent groups to evaluate the OlymPC system. The first group, consisting of eighty (80) users, included individuals who actively participate in PC building, component selection, or system customization. This group is composed of hobbyists, gamers, students with technical experience, and casual builders who represent the platform's primary end-users. Their role is to assess the system based on usability, functionality, interface design, and overall user experience, using the criteria established by the ISO/IEC 25010:2011 quality model. Their feedback reflects how effectively the system supports real-world PC-building workflows from a user-centric perspective.

The second group consisted of twenty (20) technical experts, including IT professionals, software developers, and system analysts with backgrounds in programming, database administration, and system evaluation. These respondents provided assessments focused on the system's technical robustness, such as reliability, efficiency, structural design, and maintainability. Their evaluation ensured that the system adhered to accepted industry practices and demonstrated sound technical performance.

In total, one hundred (100) respondents participated in the system's evaluation, offering both user-level and expert-level perspectives to validate the system's overall quality and effectiveness.

The development of OlymPC utilized a combination of software tools and technologies essential for building a functional, scalable, and user-friendly web platform. The system is developed using PHP as the main programming language and supported by a MySQL relational database for structured data management. Local deployment and testing are carried out through XAMPP, which provided an integrated environment for running Apache and MySQL services. Front-end components are designed using standard web technologies such as HTML, CSS, and JavaScript, enabling responsive user interfaces and interactive system features. These tools are selected for their accessibility, compatibility with web technologies, and flexibility in iterative development under the Agile framework.

The evaluation of OlymPC is conducted in two major phases to ensure the system's functionality, accuracy, and overall quality:

1. Alpha Testing

Alpha testing is performed internally by the development team. This stage focused on detecting issues related to database connectivity, compatibility rule processing, interface errors, and general system stability. Technical problems such as incorrect logic flows, broken features, or inconsistent data outputs are identified and resolved prior to external testing.

2. Beta Testing

The beta testing phase involved selected respondents consisting of both novice and experienced PC builders. These participants assessed the usability, clarity, accuracy, and reliability of the system's features. Feedback is gathered through structured surveys and guided interviews, allowing testers to comment on system performance, interface intuitiveness, and feature effectiveness. Refinements and improvements are then implemented in subsequent Agile sprints based on the results of this evaluation.

DATA ANALYSIS PLAN

The study's data analysis process is anchored on the ISO/IEC 25010:2011 software quality model, which served as the primary evaluation standard for assessing the system's overall performance. This framework provided the criteria for examining the system in terms of functionality, usability, efficiency, reliability, and maintainability, ensuring that both user-level and technical-level feedback aligned with internationally recognized quality benchmarks. Each attribute is analyzed based on how respondents rated the system during testing.

To interpret the results gathered during the evaluation phase, the study employed specific statistical tools designed for descriptive analysis:

1. Weighted Mean

The Weighted Mean is used to summarize respondents' evaluations and determine the general level of acceptance for each ISO 25010 criterion. By assigning weights to each rating in the response scale, this method allowed the researchers to compute an overall score that accurately reflected user satisfaction and system performance. The resulting averages provided a clear indicator of how well the system met its intended quality attributes.

2. Likert Scale

A 4-point Likert Scale is utilized to obtain respondents' perceptions regarding the system's quality characteristics. This scale enabled participants to express varying degrees of agreement with the evaluation statements—from strongly disagreeing to strongly agreeing. The absence of a neutral midpoint encouraged more decisive responses, making the feedback easier to analyze. The ratings collected through the Likert Scale served as the basis for computing the weighted means and interpreting the system's acceptability.

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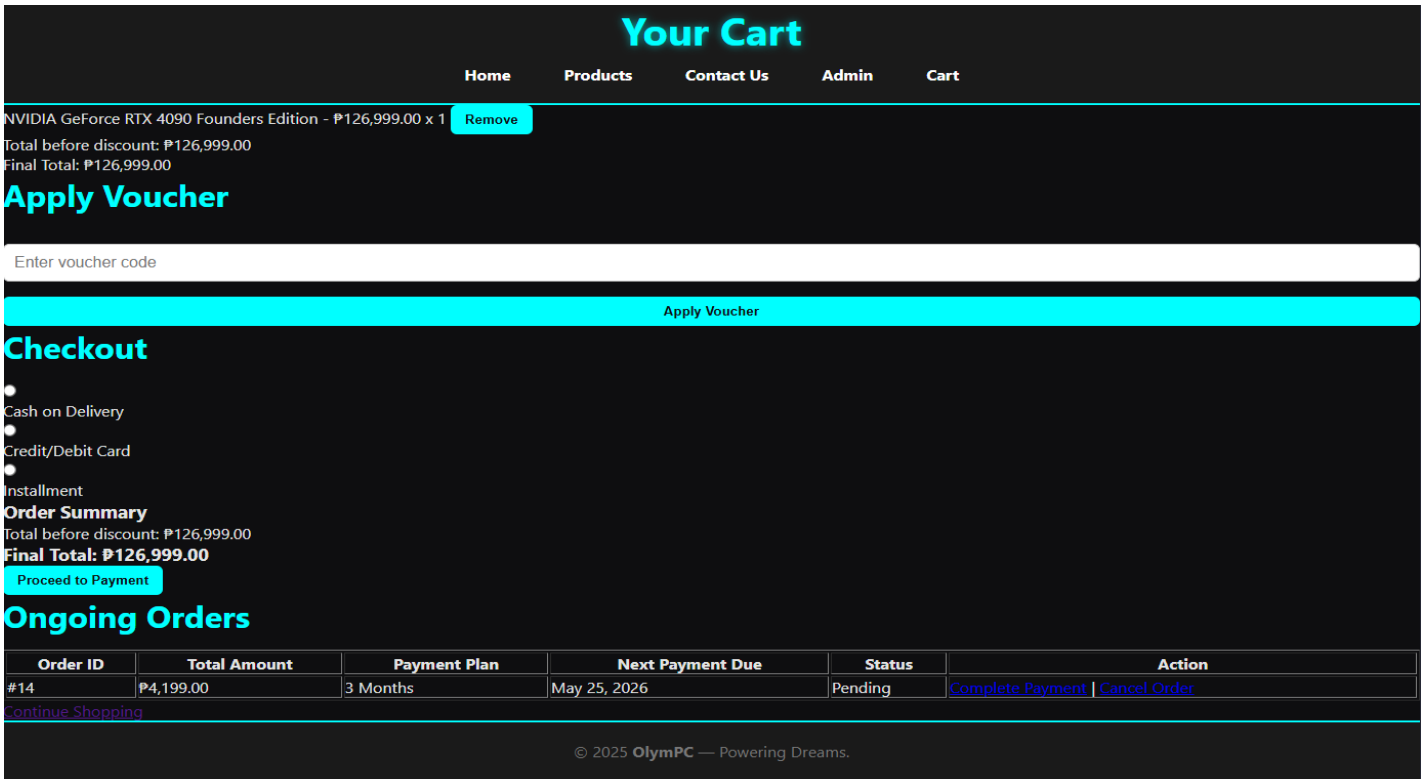
Through the combined use of the ISO 25010 model, the weighted mean, and the Likert Scale, the data analysis plan ensured that both quantitative and qualitative aspects of the system's performance are systematically examined and accurately represented.

The System

OlymPC is a web-based application developed to support users in assembling custom personal computers by integrating rule-based algorithms with descriptive analytics. The system analyzes user-selected components to ensure hardware compatibility and provides tailored product recommendations based on performance needs and budget constraints. Designed for hobbyists, students, technicians, and PC enthusiasts, OlymPC simplifies the building process by minimizing manual research and preventing configuration mistakes. Built using PHP, MySQL, and a XAMPP local server environment, the platform delivers a responsive and structured interface that supports accurate validation and guided decision-making. Its overall quality is assessed using the ISO/IEC 25010:2011 standard, ensuring that the system meets expectations for functionality, usability, efficiency, reliability, and maintainability.



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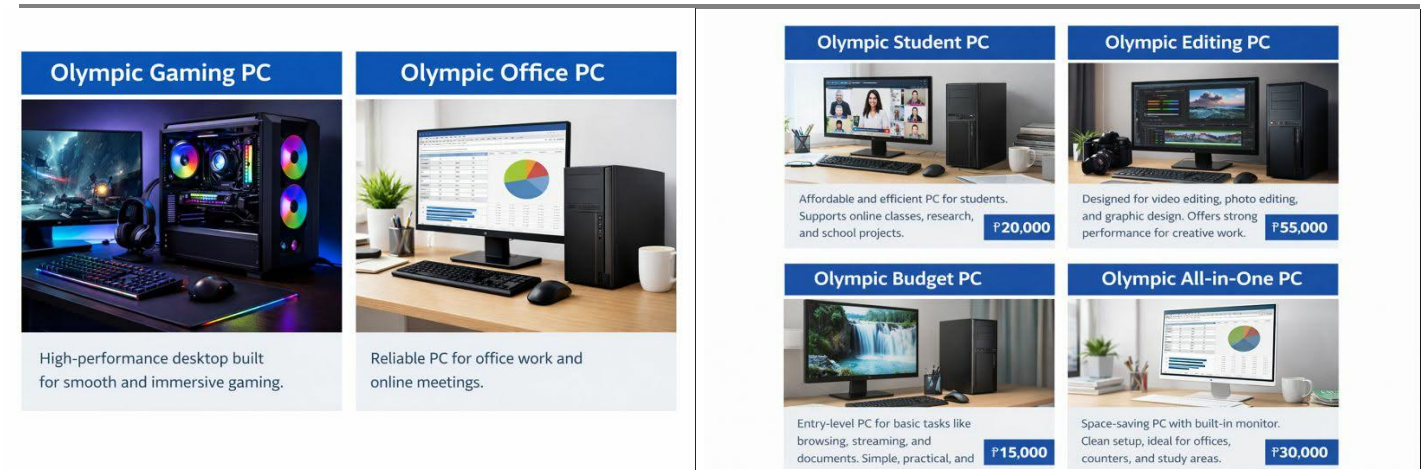

Figure 4: OlymPC Cart and Build Summary Interface

The Cart interface displays all selected PC components in an organized list, allowing users to review their build before finalizing. It shows key details such as component names, prices, quantities, and subtotal computations. The panel automatically updates totals, ensuring that users receive accurate cost summaries as they modify selections. This interface functions as a centralized checkpoint where users can verify their chosen parts, remove items, or proceed to checkout, reinforcing clarity and preventing accidental selection errors.

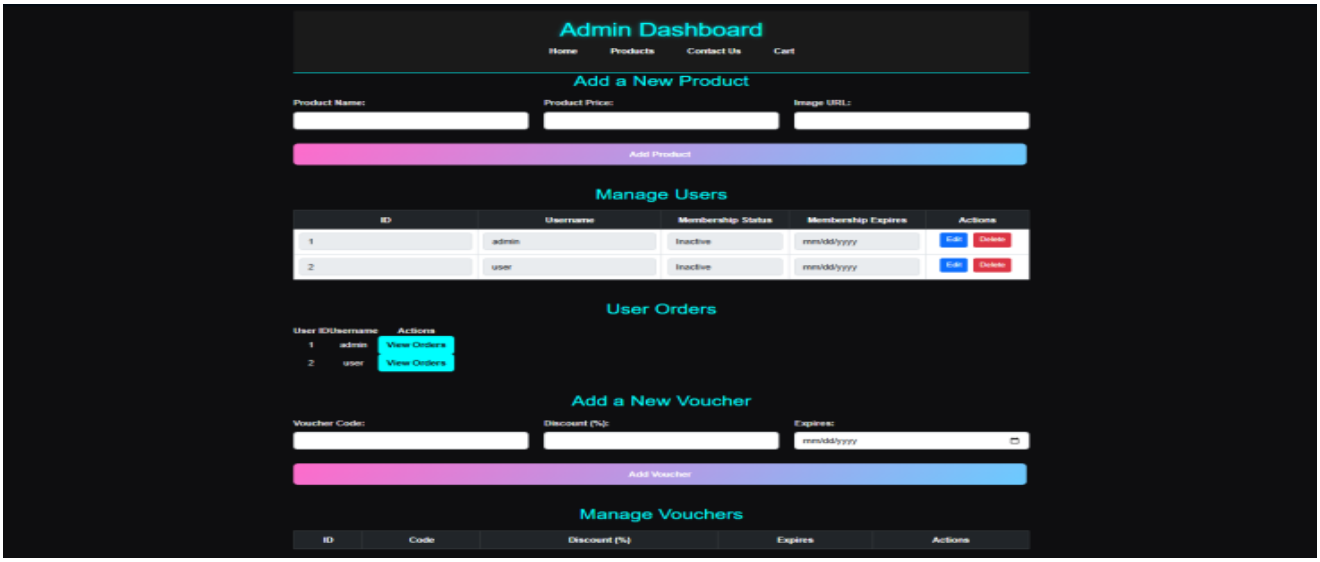

Figure 5: Administrator Management Dashboard

The Admin Dashboard provides authorized personnel with tools to oversee system operations, including the management of hardware components, vendors, user accounts, and support tickets. It features structured tables, edit buttons, and status indicators to facilitate quick updates and data corrections. Through this interface, administrators can add new components, update pricing, adjust compatibility tags, or resolve support inquiries. The dashboard ensures maintainability by giving staff streamlined access to the system's backend functions.

Assessment: Summary Of Respondents on The System

A Table of Distribution of Respondents is presented below:

Respondents (groupings)	Size (n)	Percentage
Users	80	80%
Technical	20	20%
Total (n)	**100**	**100.0%**

Table 1: Distribution of Respondents

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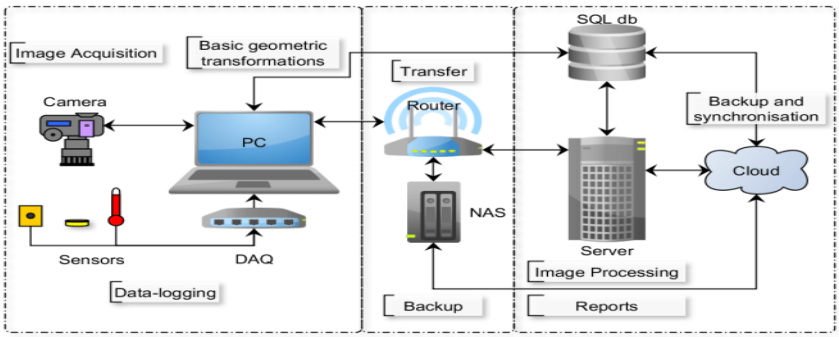
There are 80 users and 20 technical experts for a total of 100 respondents.

The table below presents the summary evaluation results from both user and technical respondents based on the ISO/IEC 25010:2011 software quality criteria. It provides an overview of how each group rated the system's major attributes.

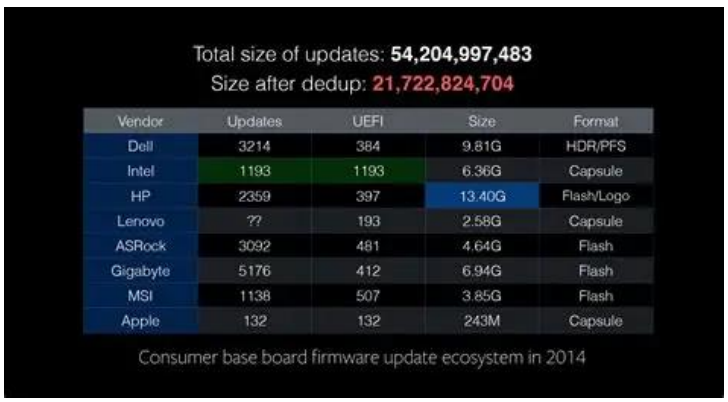
Criteria (ISO25010)	Respondents (100)			
	Users (80)		Technical (20)	
	WM	VI	WM	VI
1. Functionality	3.73	Strongly Agree	3.73	Strongly Agree
2. Reliability	3.76	Strongly Agree	3.76	Strongly Agree
3. Efficiency	3.76	Strongly Agree	3.76	Strongly Agree
4. Usability	3.76	Strongly Agree	3.76	Strongly Agree
5. Portability	3.74	Strongly Agree	3.74	Strongly Agree
6. Maintainability	3.75	Strongly Agree	3.75	Strongly Agree
Overall Average Mean	3.75	Strongly Agree	3.75	Strongly Agree

Table 2: Summary of Respondents' Evaluation System

The results indicate that both respondent groups rated the system very positively across all evaluated quality attributes. All respondents gave slightly higher ratings in areas related to reliability, usability, and efficiency, reflecting their experience of the system as intuitive, easy to navigate, and responsive during operation. Although minor variations exist between the two groups, the overall assessment consistently demonstrates strong approval of the system's quality and performance.



In the system, the hardware database is continuously updated to ensure that all device records remain accurate and current. This ongoing update process allows administrators to monitor hardware status, track changes, and quickly identify issues or upgrades. As a result, the system supports better decision-making, improved maintenance, and efficient resource management.



A video tutorial is one important aspect of learning how hardware is made, updated, and maintained. Through visual demonstrations, learners can clearly understand the step-by-step processes involved in hardware

assembly, configuration, and troubleshooting. This approach enhances comprehension and helps users apply proper techniques in real-world hardware management tasks.

ETHICAL CONSIDERATIONS

The evaluation results demonstrate that the OlymPC system effectively meets the study's objectives, particularly in providing accurate compatibility validation and reliable product recommendations. The consistently high ratings across usability, reliability, and efficiency indicate that users were able to navigate the system easily while receiving dependable system feedback. These results directly support the system's primary goal of guiding users toward compatible and performance-optimized PC components. The positive assessment of functionality confirms that the rule-based algorithms successfully enforce hardware compatibility constraints and generate appropriate product recommendations. Furthermore, the strong efficiency and reliability scores suggest that the recommendation process operates smoothly without delays or system errors. Overall, the findings validate that OlymPC not only functions as intended but also fulfills its role as a decision-support tool that enhances confidence in component selection and purchasing decisions.

The study upholds strict ethical standards by ensuring that all respondent data are treated with confidentiality and respect. Personal information is kept secure and is never shared or revealed without explicit permission. Participation in the research is entirely voluntary, allowing respondents to decline or withdraw at any point without penalty. The researchers implement appropriate data protection measures to prevent unauthorized access and misuse of collected information. Moreover, all results are presented truthfully and without alteration, maintaining transparency, objectivity, and the overall integrity of the study.

SUMMARY

The study successfully developed OlymPC, a web-based platform that performs hardware compatibility validation, product recommendation, and build verification using descriptive analytics and rule-based algorithms. Feedback from 80 users and 20 technical experts demonstrated that the system performs strongly across all ISO 25010 software quality dimensions. Respondents particularly emphasized the system's accuracy in assessing component compatibility, it's clear and intuitive navigation, responsive interface, stable functionality, and well-structured design. Overall, the findings confirm that OlymPC effectively supports users—especially beginners—in creating reliable and optimized PC configurations with confidence.

CONCLUSION

Results from both user and technical evaluators show consistently high ratings, with both groups marking the system as "Strongly Agree" across the ISO 25010 software quality criteria. User respondents highlighted the platform's usability and functional clarity, indicating that OlymPC offers an accessible and guided experience for PC building. Technical experts affirmed the system's robust architecture, maintainability, and reliability, demonstrating that its technical implementation is sound. In conclusion, OlymPC proves to be an effective and dependable platform that achieves its intended purpose of simplifying PC assembly and delivering accurate compatibility recommendations.

RECOMMENDATION

To improve the system further, the researchers recommend expanding and routinely updating the hardware database, ideally through partnerships with suppliers or automated API-based data integration to ensure current component information. Continuous testing, evaluation, and user feedback should be maintained after deployment to align future updates with evolving user needs and technological trends. Future developers may also consider integrating adaptive or AI-driven features to provide more personalized, dynamic, and data-informed recommendations.

Implementing a structured long-term maintenance plan—including regular updates, bug fixes, and scalability checks—is likewise encouraged to preserve system quality over time. These enhancements would support the

continued growth of OlymPC into a more comprehensive and user-focused platform for PC builders and technology professionals.

REFERENCES

1. Patel, H. (2025). The role of data visualization in decision making. International Journal of Research Publication and Reviews. https://ijrpr.com/uploads/V6ISSUE3/IJRPR41136.pdf
2. Wisbey, O., et al. (2024). Choosing between a rule-based vs. machine learning system. TechTarget. https://www.techtarget.com/searchenterpriseai/feature/How-to-choose-between-a-rules-based-vs-machine-learning-system
3. Pira, E., Nowroozi, A., & Badie, K. (2014). Verification of confliction and unreachability in rule-based expert systems. arXiv. https://arxiv.org/abs/1404.2768
4. Mishra, P. (2021). PC configuration and component recommendation system. International Journal of Computer Applications, 183(11). https://ijcaonline.org/archives/volume183/number11/mishra-2021-ijca-921411.pdf
5. Yoon, I., Chen, S., & Porter, A. (2012). Testing component compatibility in evolving configurations. University of Maryland. https://www.cs.umd.edu/~atif/pubs/Yoon2012.pdf
6. Zhang, R., Zhang, W., Tian, Y., & Zhu, Q. (2022). Adaptive multi-view rule discovery for compatibility prediction. arXiv. https://arxiv.org/abs/2206.13749