

Initial Project Allocation Form

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Program:	BCSCUN
Project Title:	Gamers Bazaar – an online e-commerce website that sells gaming equipment and computer with the real-life

Problem Statement:

The global e-commerce industry is rapidly expanding, with revenues projected to reach 1.2 trillion U.S. dollars in 2024 (Coppola, 2025), up from nearly 1.1 billion in retail e-commerce sales in 2023. This growth clearly demonstrates the exponential rise in the potential of e-commerce websites within a short period. Additionally, the gaming accessories market has also surged, reaching new heights in 2024. For instance, PC monitor unit shipments increased by 5.9% compared to the first quarter, with 29.9 million units shipped in the second quarter alone (Laricchia, 2025). However, this high demand has triggered critical issues, such as inflated prices and the widespread circulation of counterfeit products aimed at either lowering demand or deceiving consumers with high-quality imitations. A 2022 report by the Anti-Counterfeiting Group (ACG) revealed that 6.5% of gaming peripherals sold online are counterfeit, seriously undermining consumer trust (OECD, 2019). These issues underscore the need for e-commerce platforms, particularly those selling gaming-related products, to become more secure and user-friendly in order to protect consumers from fraud.

Moreover, despite the rapid growth of e-commerce, counterfeit products remain a significant concern, especially in the gaming accessories sector. A potential remedy lies in the integration of QR code-based authentication systems, where each sold product is linked to a verified digital certificate. However, current QR verification methods suffer from a lack of standardization, vulnerability to replication, and limited integration with real-time verification portals. Many existing systems also do not provide automated email confirmations upon verification, depriving consumers of a secure record of authentication. Without a robust and user-friendly QR verification system, counterfeiters may continue exploiting weak authentication mechanisms, further damaging consumer trust in online purchases (OECD, 2019).

In light of these challenges, it becomes imperative to develop a secure, interactive, and user-friendly web application that not only allows customers to browse, search, and purchase gaming equipment and computer products but also enables administrators to manage inventory, update product details, track sales reports, and respond to customer queries through a secure dashboard. This dual-role functionality would improve customer engagement while maintaining operational efficiency. Furthermore, incorporating enhanced QR-based verification systems—with features such as real-time digital certificate validation, anti-tampering mechanisms, and automatic email confirmations—will significantly

reinforce product authenticity and elevate consumer confidence in the online shopping experience.

- 1) To develop an interactive and user-friendly web application that enables users to browse, search, and purchase gaming equipment and computer products, while providing administrators with a secure dashboard to manage inventory, update product information, view sales reports, and respond to customer inquiries.
- 2) To implement the generation of a unique QR code for each purchased product, linking it to a securely stored and authenticated digital certificate accessible through a dedicated verification portal.

OPTIONAL: ONLY if you have made a prior agreement with a supervisor, enter the name of the supervisor here.

Supervisor's name	Ms. Asvhini Subramaniam
Supervisor's signature	Asvhini 23.03.25

Comment/Feedback	
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