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Enhancing Online Shopping Experience with MERN Stack-Based Web Development

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Abstract: *From this research paper we examined the blueprint and implementation of a advanced e-commerce website after Amazon using the MERN stack (MongoDB, Express.js, React.js, Node.js) [1][2]. The moto behind it was to exhibit how this integrated JavaScript technology stack can develop a flexible and efficient online shopping platform. We used a methodology that involved MongoDB as our database for storing user data, product detail, transaction history. Express.js handles API requests and manages authentication. React.js builds GUI interface including product list, cart and checkout pages and Node.js is used for backend server and connects the frontend to the database [3][4]. Our research showed that the MERN stack architecture effectively managed e-commerce challenges, such as enhancing performance, safeguarding data, and delivering a smooth user experience across different platforms. It also provides the merits which include substantial decrease in development complexity, along with enhanced manageability and flexibility as compared to traditional multi-language stacks [5]. Here the works stands out by providing extensive technical knowledge and practical execution approaches, specially customized for business-level e-commerce applications using advanced JavaScript technologies. It helps to find a solution for current publications refined e-commerce systems [6].*

Keywords: MERN stack e-commerce, Full stack JavaScript development, Scalable Web architecture

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