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Educational Engineering Tool on Smartphone

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Abstract : This paper explores the transformative impact of smartphones on pedagogy and presents a smartphone application developed specifically for engineering problem-solving and educational purposes. The widespread availability and advanced capabilities of smartphones have revolutionized the way we interact with technology, including in education. The ubiquity of smartphones allows learners to access educational resources anytime and anywhere, promoting personalized and self-directed learning. The first part of this paper discusses the overall influence of smartphones on pedagogy, emphasizing their potential to improve learning experiences through mobile technology. In the context of engineering education, this paper focuses on the development of a dedicated smartphone application that serves as a powerful tool for both engineering problem-solving and education. The application features an intuitive and user-friendly interface, allowing engineering students and professionals to perform complex calculations and analyses on their smartphones. The smartphone application primarily focuses on beam calculations and serves as a comprehensive beam calculator tailored to engineering education. It caters to various engineering disciplines by offering interactive modules that allow students to learn key concepts through hands-on activities and simulations. With a primary emphasis on beam analysis, this application empowers users to perform calculations for statically determinate beams, statically indeterminate beams, and beam buckling phenomena. Furthermore, the app includes a comprehensive library of engineering formulas and reference materials, facilitating a deeper understanding and practical application of the fundamental principles in beam analysis. By offering a wide range of features specifically tailored for beam calculation, this application provides an invaluable tool for engineering students and professionals looking to enhance their understanding and proficiency in this crucial aspect of a structural engineer.

Keywords : mobile devices in education, solving engineering problems, smartphone application, engineering education
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