

The Stakeholder Framework: Integrating Socially Responsible Computing into Technical Computer Science Assignments

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Abstract

Motivated by a disconnect between socially responsible computing (SRC) content and practical application in computer science assignments, we propose the Stakeholder Framework: a novel approach to integrating SRC content into computer science curriculums, focusing specifically on technical assignments. The framework follows a four-step process: (1) selection of an existing assignment with a clear use-case and potential SRC implications, (2) modification of the assignment to consider different stakeholders' needs and potential social impacts, (3) preparation of a discussion section where students engage with pertinent SRC concepts, and (4) integration of the SRC considerations into students' project submissions. We implemented the framework in a case study involving a key-value database project subject to GDPR compliance, demonstrating that the framework encourages students to grapple with nuanced social impacts inherent in technical implementation. The case study further revealed the necessity for course faculty engagement, ample content development time, and iterative adjustment to confront students' discomfort with ambiguous SRC situations.