

Abstract

This study aims to develop a web application that would support parental involvement in their children's Computer Science education, with a primary focus on improving parental engagement in Ireland. The paper analyses the current state of Computer Science subjects integration into Irish primary and secondary school curricula through a thorough literature review, highlighting ongoing issues in this field. Additionally, the research explores the significance of parental involvement in a child's life, emphasising its potential to lead to educational achievements in the future for them.

The study involved reviewing existing programmes geared towards nurturing children's interest in Computer Science such as CoderDojo. The findings from this research revealed a scarcity of initiatives that addresses this issue of parental support in their children's Computer Science education. Notably, a research project called OurKidsCode aspires to increase parental involvement and encourage greater diversity in computer education.

The web application designed and developed in this paper was inspired by the OurKidsCode initiative, which seeks to support their mission of providing STEM (Science, Technology, Engineering, and Mathematics) opportunities to families with primary-aged children all around Ireland. The design process was informed using primary qualitative research, including stakeholder interviews and firsthand participation in OurKidsCode workshops. The web application designed from this research features a carefully selected collection of projects that have been approved by the OurKidsCode team, as well as interactive tabs that enables users to contribute new projects or explore existing ones.

By evaluating the web framework developed as part of this study, it was found that its potential to drive parental involvement in children's Computer Science education is significant. By facilitating active usage of the platform, parents are empowered to gain basic knowledge in Computer Science, which in turn fosters a supportive environment for their children's Computer Science education. It was also found that the web application's capacity to facilitate user contributions enhances engagement, enabling parents to play a proactive role in encouraging their children's participation in computing-related activities.