

Using Program Visualization to Improve ICT skills towards achieving Vision 2030

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ABSTRACT

ICT has become an imperative component in enhancing industrialization and socio-economic growth in developed and developing countries. It is thus irresistible for any nation that wishes and plans to expand its growth. In the Vision 2030, the country seeks to provide ICT services that are quality and affordable to many. Any ICT component will include some software (program) and hardware. However, programming remains a hurdle to many ICT professionals, teachers and the students thereof and thus country imports most of its software. This poses a danger of slowing down possible innovations and developments that would otherwise be realized if the programming skill is mastered. This paper evaluates programming from the students' perspective on its relevance, understandability and usage of emerging trends to learn it. During the study, a sampled population of students of IT and computer science students was evaluated using questionnaires. It was evident that most students desired better ways other than the chalk-board method or using PowerPoint slides. It however emerged that most students were unaware of existing tools that can aid learn programming. The paper culminates by a brief discussion of the emerging trend of using program visualization tools to teach/learn programming.

Keywords: *Program Visualization, Programming, Software visualization*