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Several mobile development frameworks allow developers to program a single code to run on different types of devices and operating systems. However, the application code is dependent on the chosen framework, making it difficult to reuse it when there is a need to migrate to other frameworks. This work proposes a generic framework for cross-platform mobile development, which uses web technologies (HTML, CSS, and JavaScript) as a basis for application development while we delegate the responsibility for generating applications to cross-platform mobile development frameworks. By using web language, we bring a technology that is widely known to the community to reduce the learning curve necessary for mobile development. Furthermore, by transferring the responsibility for generating mobile applications to a cross-platform mobile development framework, we allow our solution to be flexible to generate applications for any platform, as long as there is a framework that performs this generation. Consequently, changing from one application type to another is simplified, as all one needs to do is choose a cross-platform mobile development framework that generates applications of the desired type. We discuss the proposed approach and show, through case studies, that it allows flexibility in the choice of cross-platform development framework, not being necessary to change the code already developed in case of change in the development platform.