

# DESIGNING A MOBILE APPLICATION TESTING MODEL

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## ABSTRACT

In order to ensure that the software developed is at its highest quality, testing should be done all throughout the software life cycle and should start as early as possible. Therefore, for our previous mobile application development project, V-Model (a software testing model) was adopted as currently there is no specific testing model for mobile application. Unfortunately, we faced with a lot of challenges, similar to the challenges faced by other mobile application projects, namely physical factors, network connections, testing equipment, system bug versus mobile device bug and multiple mobile platforms and versioning. Even though the main objective is to test the mobile application, mobile application testing cannot be separated from testing on different mobile devices. Although solutions had been proposed to solve a few common mobile application testing challenges, there is still no clear testing model for mobile application. This paper presents the criteria to be considered when designing a testing model for mobile applications.

## KEYWORDS

Mobile application testing, testing model, V-model, test-cloud, test cross-platform

## 1 INTRODUCTION

One of the strong points of a software testing model is testing starts as soon as the software requirement is obtained. Validation and verification cannot be separated from whole development

process. One of the software testing models that is widely used is V-model (Figure 1). The V-model is a generic and comprehensive testing model. Acknowledging this, V-model was adopted in our previous mobile application (app) project [8]. Unfortunately, we faced with a lot of challenges, similar to the challenges faced by other mobile app projects [5], [6]. The challenges are summarized in Table 1.

Table 1: Challenges in mobile application testing [8]

Challenges	Description
Physical factors	Mobile devices are small in size and are nowadays more inclined to touch screen-based. Due to this, the tester needs to repeatedly stress on their fingers to input data into the devices when performing testing, and their fingertips may sore over time. Therefore, mobile system testing takes longer time to complete than other web or desktop application testing.
Connection speed	There are different types of network carriers available for mobile phone connection usage such as 3G, 4G and Wi-Fi, which are different in speed depending on the