

## ABSTRACT

Formal Specifications using VDM

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Increased attention has been paid to the specification phase of the software development life cycle, and it has been discovered that faults occurring in the software products are mainly due to the inability of the development team to capture the requirements accurately and completely. There is a need for a more formal approach to developing specifications so that the problems inherent in informal and semi-formal specifications would be eliminated, and a more satisfactory software product developed.

In this thesis, the application of formal methods to the specification phase is discussed, and VDM, as a formal specification method, is examined and used to specify the requirements of two(2) systems. It will be shown that although using such powerful techniques to specifying software requirements is highly advantageous and is a necessity for the development and quick delivery of high-quality and less costly software products, much still needs to be done before they can be widely accepted and used.