

UNIVERSITI TEKNOLOGI MARA

**THE DEVELOPMENT OF MOBILE
APPLICATION FOR
MANUFACTURING OPERATION
- JF ENGINEERING
MOBILE INFORMATION SYSTEM**

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ABSTRACT

Nowadays, the manufacturing industry is facing several challenges to retain its competitiveness, particularly in producing high-quality products at a lower cost of operation. The engineering division as a part of the most important team in manufacturing is responsible for ensuring the production operation not be interrupted by any technical issues which can affect the company's profit margin or may result in losses. Thus, the idea to develop a mobile application that enhances efficiency and productivity to be used by the engineering team, brought to the development of Sony EMCS JF Engineering Mobile Information System. This mobile application was aimed to help reducing the response time and improve the approach of information sharing for the manufacturing operation. The application was developed in an Android platform with Android Studio, and based on a client-server architecture. The application was integrated with JF Engineering portal and using Parse.com as its back-end for cloud database. It has many functionalities which related to JF Engineering's core activities such as Offline Defect Control, Start-Up Check Data, Touch-Up Data and Pallet Management. This mobile application also offers a menu which enables users to send and view reports, email, phone calling, chat messaging, view profiles, and many others.

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CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND

Globalisation, economy and customer saturation towards mass produced products have generated ever-changing market demands. This situation led to manufacturing industries to rapidly and effectively respond to overcome these challenges to retain their competitiveness, particularly in producing high-quality products at a lower cost of operation [1].

Industry players in Malaysia are no exception, much less amid global economic uncertainty. The management of the industry and their employees, including engineers inevitably have to make improvements and innovations in their work activities, in order to ensure the survival of their livelihood's industry. The speed of manufacturing operation to produce the high-quality products and to optimize the productivity can be affected if the industry players continue with their conventional operations without adapting new technology tools.

Nowadays, mobile and decentralised decision-making by using the mobile technology on core company activities becomes the standard practice. Mobile technology refers to devices that are portable and offer immediate access to information. The technology includes smartphone, PDA, ultra-mobile PC, laptop and tablet PC. In manufacturing industries, mobile technology can support automate processes, increase operational competitiveness, reduce costs and gain efficiencies.

Mobile technology changes rapidly as the mobile applications usage is overtaking traditional PC-based web-browsing. Almost 80% of all internet users access it using smartphones and tablets according to Global Web Index's survey on 2014 [2]. The exploitation of mobile devices and applications (apps) is eventually finding its