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Integrated Rubber Price and Weather Monitoring System with Web Scraping for Rubber Tapper Productivity

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ABSTRACT

As the existing challenges faced by the rubber tapper in Malaysia, which has made them unable to obtain real-time price and weather information, this project presents the development of SmartTapper, an Integrated Rubber Price and Weather Monitoring System with Web Scraping for Rubber Tapper Productivity. These problems include lack of centralized platform on rubber price and weather information, price fluctuation in latex, uncertain weather, and limited access to real time information, which have an enormous influence for their productivity and income sustainability. A mobile application which utilizes web scraping to update latex prices and weather forecasts, merging these two key elements into an easy-to-acquire formula. Following an iterative development process based on the Scrum methodology, the project includes the definitions of user requirements, the system architecture design, and feature implementations like notifications, data visualization, and efficient database management. The work illustrates the impact of technology to both the rubber-tapping sector and sustainable agricultural practices and economic resilience.

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CHAPTER I

INTRODUCTION

This chapter provides the background and rationale for the study. It also gives details of the significance, the issues and problems led to this research.

1.1 Background of Study

One of the main backbone of Malaysia's economy and one of its most important sectors today is the rubber business. The elements of the agricultural sector that supports Malaysia's GDP and national development is the rubber industry (Mohamad Norizan & Md Yusof, 2021). However, like many other fields of agriculture, the rubber-tapping segment of the sector poses some serious challenges both to its participants and the central regulatory bodies. The price of latex directly affects tappers' salaries, and the changes are not easy to predict (Kraisornnukhor et al., 2023). Moreover, weather conditions are constantly changing and also affect productivity and stability in wages of rubber tappers (Pinizzotto et al., n.d.). The problem is worsened by the lack of centralized sources of information on the above issues. Hence, rubber tappers are not capable of making informed decisions. This paper seeks to propose a solution to the above challenges by utilising technology to develop a tool that adequately addresses the