

DEVELOPING MOBILE PROFILING APPLICATION FOR PROFILING INDEPENDENT PALM OIL FARMERS: A DATA SOLUTION FOR SUPPLY CHAIN TRACEABILITY

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**DEPARTMENT OF AGROINDUSTRIAL TECHNOLOGY
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IPB UNIVERSITY
BOGOR
2024**

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At this moment, I declare that the undergraduate final report, titled “Developing Mobile Profiling Application for Profiling Independent Palm Oil Farmers: a Data Solution for Supply Chain Traceability” is my work under the supervision of Prof. Dr. Eng. Taufik Djatna, S.TP, M.Si. It has never been published in any form by any higher education organization. An information source that comes from or is quoted from published or unpublished work by other authors has been mentioned in the text and is included in the references at the end of this paper.

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Bogor, June 2024

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ABSTRACT

DINDA SAFHIRA AUDRY. Developing Mobile Profiling Application for Profiling Independent Palm Oil Farmers: a Data Solution for Supply Chain Traceability. Supervised by TAUFIK DJATNA.

This project was released to handle the challenges faced by smallholder farmers in Indonesia regarding palm oil supply chain traceability. A mobile application was developed to improve data collection and transparency. The palm oil industry plays a key role in the Indonesian economy but faces pressure to ensure sustainable practices. Traceability of Fresh Fruit Bunches (FFB) is crucial, and manual recording systems used by many smallholders are prone to errors and manipulation. This project aimed to develop a user-friendly mobile application for profiling palm oil farmers. The application allows farmers to register, record land data (including automatic area calculations based on GPS pinpoints), and upload profile information. Integration with a Firebase database ensures secure data storage and access for relevant stakeholders. A verification process is planned, in which cooperatives verify newly submitted farmer data before they can sell FFB. This application has the potential to streamline traceability efforts, improve transparency, and empower smallholder farmers in the palm oil supply chain. Future development will focus on hosting the application publicly and implementing location-based notification features.

Keywords: mobile application, palm oil, supply chain, traceability system

ABSTRAK

DINDA SAFHIRA AUDRY. Pengembangan Aplikasi Mobile Profiling untuk Profiling Petani Kelapa Sawit Mandiri: Solusi Data untuk Ketertelusuran Rantai Pasok. Dibimbing oleh TAUFIK DJATNA.

Proyek ini dirilis untuk menangani tantangan yang dihadapi oleh petani kecil di Indonesia terkait ketertelusuran rantai pasok minyak sawit. Aplikasi seluler dikembangkan untuk meningkatkan pengumpulan data dan transparansi. Industri minyak sawit memainkan peran penting dalam perekonomian Indonesia, namun menghadapi tekanan untuk memastikan praktik berkelanjutan. Ketertelusuran Tandan Buah Segar (TBS) sangatlah penting, dan sistem pencatatan manual yang digunakan oleh banyak petani kecil rentan terhadap kesalahan dan manipulasi. Proyek ini bertujuan untuk mengembangkan aplikasi seluler yang mudah digunakan untuk pembuatan profil petani kelapa sawit. Aplikasi ini memungkinkan petani untuk mendaftar, mencatat data lahan (termasuk penghitungan luas otomatis berdasarkan titik GPS), dan mengunggah informasi profil. Integrasi dengan database Firebase memastikan penyimpanan dan akses data yang aman bagi pemangku kepentingan terkait. Proses verifikasi direncanakan, dimana koperasi akan memverifikasi data petani yang baru diserahkan sebelum mereka dapat menjual TBS. Penerapan ini berpotensi menyederhanakan upaya penelusuran, meningkatkan transparansi, dan memberdayakan petani kecil dalam rantai pasokan minyak sawit. Pengembangan di masa depan akan fokus pada hosting aplikasi secara publik dan penerapan fitur notifikasi berbasis lokasi.

Kata kunci: aplikasi mobile, kelapa sawit, rantai pasok, sistem ketertelusuran



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DEVELOPING MOBILE PROFILING APPLICATION FOR PROFILING INDEPENDENT PALM OIL FARMERS: A DATA SOLUTION FOR SUPPLY CHAIN TRACEABILITY

DINDA SAFHIRA AUDRY

Undergraduate Final Report
One of the requirements for obtaining a degree of
Bachelor of Engineering with Honours
at
Department of Agroindustrial Technology

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Date of Exam :
June 28, 2024

Date of Approval :
July 18, 2024



PREFACE

Praise and gratitude, the author prayed to Allah SWT for all his blessings, so the author completed the undergraduate final report, from February to June 2024. The Capstone project undertaken by the author is entitled “Developing Mobile Profiling Application for Profiling Independent Palm Oil Farmers: a Data Solution for Supply Chain Traceability” which is a requirement to complete an undergraduate program from the Department of Agroindustrial Technology, Faculty of Agricultural Technology.

The authors would like to thank all parties who helped in the writing and preparation of this research, namely:

1. Prof. Dr. Eng. Taufik Djatna, S.TP, M.Si, as a supervisor who has guided and provided advice during the project.
2. Prof. Dr. Ono Suparno, S. TP, and M.T. Head of Department of Agroindustrial Technology.
3. All staff members of the Department of Agroindustrial Technology.
4. The author's family always sent prayers, motivation, and materials so that the author could complete this research.
5. All members of the Capstone Project group, namely Akhmad Fatikhudin, Shafa’a Puteri Az Zahra and Muhammad Dani Rudiansyah.
6. Colleagues in the Department of Agricultural Industrial Technology Batch 57.

Hopefully, this scientific work will be helpful for those in need and for advancing science.

Bogor, June 2024

Dinda Safhira Audry



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