

# SURAT PENCATATAN CIPTAAN

Dalam rangka perlindungan ciptaan di bidang ilmu pengetahuan, seni dan sastra berdasarkan Undang-Undang Nomor 28 Tahun 2014 tentang Hak Cipta, dengan ini menerangkan:

Nomor dan tanggal permohonan : EC002026016957, 27 Januari 2026

## Pencipta

Nama : **Elizabeth, Lukas Davin Pamudji dkk**

Alamat : Sidomukti no 60, Cibeunying Kaler, Kota Bandung, Jawa Barat, 40123

Kewarganegaraan : Indonesia

## Pemegang Hak Cipta

Nama : **Universitas Kristen Maranatha**

Alamat : Jl. Prof. drg. Surya Sumantri, M.P.H. No. 65 Bandung - 40164, Jawa Barat, Indonesia. Kecamatan Sukajadi., Sukajadi, Kota Bandung, Jawa Barat, 40164

Kewarganegaraan : Indonesia

Jenis Ciptaan : **Poster**

Judul Ciptaan : **CARELINKER: A mobile health application for elderly care in Indonesia**

Tanggal dan tempat diumumkan untuk pertama kali di wilayah Indonesia atau di luar wilayah Indonesia : 1 Desember 2025, di Kota Bandung

Jangka waktu perlindungan : Berlaku selama hidup Pencipta dan terus berlangsung selama 70 (tujuh puluh) tahun setelah Pencipta meninggal dunia, terhitung mulai tanggal 1 Januari tahun berikutnya.

Nomor Pencatatan : 001097997

adalah benar berdasarkan keterangan yang diberikan oleh Pemohon.  
Surat Pencatatan Hak Cipta atau produk Hak terkait ini sesuai dengan Pasal 72 Undang-Undang Nomor 28 Tahun 2014 tentang Hak Cipta.



a.n. MENTERI HUKUM  
DIREKTUR JENDERAL KEKAYAAN INTELEKTUAL  
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## LAMPIRAN PENCIPTA

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2	Lukas Davin Pamudji	Jl. Natawijaya no 48A/19A Regol, Kota Bandung
3	Angeline Octavina	Jl. Costarica Residence no 103A Batam Kota, Kota Batam
4	Marcella Rexana	Jl. Kapuas no 3 Tegal Timur, Kota Tegal
5	Jimmy Agustian Loekito	Jl. GG Cikapundung no 36 Sumur Bandung, Kota Bandung
6	Karenina Wong	Jl. Cisaranten Kulon Arcamanik, Kota Bandung
7	Bonifasius Braedon Hansel	Jl. Kembar Mas Utara I no 5 Regol, Kota Bandung



1. Dalam hal pemohon memberikan keterangan tidak sesuai dengan surat pernyataan, Menteri berwenang untuk mencabut surat pencatatan permohonan.
2. Surat Pencatatan ini telah disegel secara elektronik menggunakan segel elektronik yang diterbitkan oleh Balai Besar Sertifikasi Elektronik, Badan Siber dan Sandi Negara.
3. Surat Pencatatan ini dapat dibuktikan keasliannya dengan memindai kode QR pada dokumen ini dan informasi akan ditampilkan dalam browser.

# CARELINKER

## A Mobile Health Application for Elderly Care in Indonesia

Lukas Davin P, Marcella Rexana, Angeline Oktavina, Bonifasius Braedon H., Karenina Wong, Jimmy Agustian Loekito, S.T., M.T, Elizabeth Wianto, S.Sos., S.Sn., M.Ds., Ph.D

### BACKGROUND

Indonesia is entering an aging society, with the elderly population reaching 11.75% (±30 million) in 2023 and projected to exceed 65 million by 2045. Many elderly face comorbidities, limited access to care, and dependence on family caregivers who often experience stress, weak coordination, and information gaps. Although mHealth apps are growing, most Indonesian solutions remain single-purpose and lack elderly-friendly design.

### OBJECTIVE

To design, develop, and evaluate Carelinker, an Android-based mobile health application that integrates elderly monitoring, family communication, and human-centered design through interdisciplinary collaboration between Computer Engineering and Visual Communication Design.

### POV

She willingly cares for her mother-in-law until the end of her life, but carrying the full caregiving responsibility alone prevents her from spending time with her nuclear family. She needs support and shared caregiving from other family members as her role has shifted into that of a full-time caregiver.

### USER PERSONA

#### ABOUT

A 48-year-old middle-class housewife in the Riau Islands with three children, living with her mother-in-law who has dementia. Her husband is a fisherman who returns home only seasonally, making her the primary caregiver and manager of the household.

#### GOALS

- ▶ Caring for a mother-in-law until the end of her life.
- ▶ Hoping for the children to grow up healthy, become useful individuals, and be devoted to their parents.

#### FRUSTRATION

- ▶ Socially limited and losing the freedom to travel due to the responsibility of caring for an elderly person with dementia.
- ▶ Facing the challenge of caring for an elderly person with dementia who is completely bedridden and fully dependent on assistance.

#### MOTIVATION

- ▶ Fulfilling responsibilities as a daughter-in-law.
- ▶ As a parent, hoping that the children are healthy and happy.


### PROBLEM STATEMENT


Burden arises from having to care for the elderly continuously without any breaks or rotation with other family members.

### METHOD

- ▶ **Backend**  
Supabase (PostgreSQL) with real-time synchronization, Row-Level Security, and JWT authentication.
- ▶ **Frontend**  
Flutter framework for cross-platform UI, scalable widgets, and rapid iteration.
- ▶ **Database**  
10 relational tables covering users, elders, medications, vital signs, financial notes, shared notes, events, and documents.
- ▶ **Testing**
  - Black-box testing for functional validation.
  - System Usability Scale (SUS) with 15 participants (10 caregivers, 5 young adults).
- ▶ **Design Approach**  
Human-centered design focusing on accessibility with large typography, high contrast, simplified navigation, and clear iconography.

### PAIN POINT

Wants to have quality time with the nuclear family, but is constrained by the responsibility of caring for Amah. 

No other family members are willing to take over the caregiving role. 

Feels that the caregiving burden is placed on her alone. 

The responsibility feels unfair. 

### OBJECTIVE

To design, develop, and evaluate Carelinker, an Android-based mobile health application that integrates elderly monitoring, family communication, and human-centered design through interdisciplinary collaboration between Computer Engineering and Visual Communication Design.

### HOW MIGHT WE FORMULA

What if an elderly care scheduling and rotation app were created, allowing family members to arrange caregiving shifts in turn? The app would enable each member to view, adjust, and receive reminders for caregiving schedules, ensuring a fairer distribution of responsibilities even when they are in different locations.

### RESULTS

- ▶ **Black-box Testing**  
All major features passed functional testing after minor notification-delay fixes.
- ▶ **Usability (SUS)**
  - Average SUS Score: 82.4 (Excellent)
  - Strengths: simple navigation, intuitive layout, quick system response
  - Improvement needs: larger buttons & stronger color contrast for elderly users
- ▶ **Benchmark Comparison**  
Carelinker outperforms similar local and international mHealth apps in:
  - Feature completeness
  - Family collaboration
  - Accessibility design
  - Usability (highest SUS score among compared apps)

### DESIGN CONCEPT

An all-in-one application for elderly caregivers that provides primary caregivers with support not only financially, but also through easy shift handovers and streamlined communication of messages and information. The app also enables other caregivers and family members to monitor the elderly person's condition and daily activities anytime and anywhere.



### USER SCENARIO



MAIN CARETAKER

SECONDARY CARETAKER

### CONCLUSION

Carelinker successfully integrates technical robustness and visual accessibility to support holistic elderly monitoring. The interdisciplinary approach produces an application with excellent usability, comprehensive features, and strong potential to reduce caregiver burden and improve elderly well-being in Indonesia.

### FUTURE WORK & DEVELOPMENT

- ▶ Enhanced accessibility adjustable fonts, voice assistance, color themes
- ▶ Integration with wearable IoT devices
- ▶ IOS platform support
- ▶ AI-based predictive health analytics
- ▶ Further security reinforcement (HIPAA/ISO 27001 alignment)

SCAN HERE FOR BETTER EXPERIENCE





**Fakultas Humaniora dan Industri Kreatif**  
Program Sarjana Desain Komunikasi Visual

**SURAT TUGAS**

Nomor: 08/ST/DKV/FHIK/UKM/I/2026

Yang bertandatangan dibawah ini :

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**N I K** : 640079  
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Dengan ini menugaskan kepada :

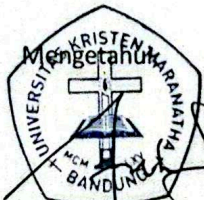
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3.	2364014	Angeline Octavina	Pencipta 3
4.	2364017	Marcella Rexana	Pencipta 4

Pembuat Karya Ciptaan sebagai berikut :

Nomor dan tanggal permohonan : EC002026016957, 27 Januari 2026  
Jenis Ciptaan : Poster  
Judul Ciptaan : CARELINKER: A mobile health application for elderly care in Indonesia

Demikian surat penugasan ini dibuat, untuk dapat dipergunakan dan dilaksanakan dengan baik.

Bandung, 28 Januari 2026



**Prof. Anton Sutandio, Ph.D.**

Dekan Fakultas Humaniora dan Industri Kreatif  
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