Khmer Braille Machine Translation

https://www.idri.edu.kh/research/khmer-braille/

The Khmer Braille Machine Translation System is an assistive technology solution that automatically converts Khmer text into Khmer Braille and vice versa. The initiative aims to enhance accessibility to educational materials and digital content for visually impaired individuals in Cambodia.

Name in original language

ម៉ាស៊ីនបកប្រែភាសាខ្មែរប្រៃយ៍

Initiative overview

The Khmer Braille Machine Translation Project was established to address the lack of accessible documents for people with visual impairments in Cambodia. Currently, the production of Khmer Braille materials is limited due to the reliance on expensive licensed software, frequent display errors, and the high cost of printing. This project aims to develop an automatic Khmer-to-Braille translation system that fully supports the Khmer language and accurately converts Khmer text into Khmer Braille. By doing so, it will help teachers produce Khmer Braille documents in greater quantity and quality, increasing the availability of learning materials for people with visual impairments. The system also contributes to improving accessibility and promoting inclusion in Cambodian society, supporting the Sustainable Development Goals (SDGs).

Key objectives include:

- Enhance the Khmer Braille writing system and improve the accuracy of translation for complex Khmer scripts.
- Assist teachers in producing a larger quantity of high-quality Khmer Braille documents.
- Reduce the time required to produce Khmer Braille documents and reliance on expensive licensed software.
- Develop a user-friendly, free-access web application platform.
- Develop a low-cost Khmer Braille printer to reduce costs and avoid purchasing expensive commercial printers.
- Provide opportunities for visually impaired individuals to participate more actively in society.
- Expand access to educational resources and information in Khmer for the visually impaired.

Name of responsible organisation (in English)

- Institute of Digital Research and Innovation, Cambodia Academy of Digital Technology (CADT)
- National Institute for Special Education (NISE)

About the application initiative

Cambodia

Organization:	• Institute of Digital Research and Innovation, Cambodia Academy of Digital Technology (CADT) • National Institute for Special Education (NISE)
Category:	AI policy initiatives, programmes and projects
Initiative type:	AI use cases/projects in the public sector
Status:	This project was completed in 2025. However, minor changes for further improvement are needed. Link to demo: https://braille.idri.edu.kh/
Start Year:	2023

Sarika

https://sarika.gov.kh

Sarika is an artificial intelligence assistant designed to accurately perform high-quality Khmer Text-to-Speech (TTS) and Speech-to-Text (STT) for the Khmer language. Developed as a Digital Government Product (DGP), this solution is accessible to the public via web portal API, and an integrated Telegram bot. The initiative aims to enhance digital public service delivery, promote digital inclusion and accessibility (such as assisting the visually impaired or enabling hands-free reading), and build trust in Cambodia's digital transformation journey.

Name in original language

សារិកា

Name of responsible organisation (in English)

Digital Government Committee (DGC)

AI Tags

Natural Language Processing (NLP), AI Capabilities, Digital Transformation, Innovation, Accessibility, Trustworthy AI

About the application initiative

Cambodia

Organization:	Digital Government Committee (DGC)
Category:	AI policy initiatives, programmes and projects
Initiative type:	AI use cases/projects in the public sector
Status:	Active
Start Year:	2024
Binding:	Non-binding
Target Sectors:	Public Sector, Digital Economy, Education, Information and Communication
OECD AI Principles:	1.2 Human-centered values and fairness (promoting inclusion and accessibility) 2.1 Investing in AI research and development 2.4 Building human capacity and preparing for labor market transformation

TranslateKH

www.translate.kh | https://translatekh.mptc.gov.kh

TranslateKH is a machine translation tool (available as a web and mobile application) designed to seamlessly translate text between Khmer and English, and vice versa, using advanced Artificial Intelligence. Developed by the General Department of Information and Communications Technology (GDICT) of the Ministry of Post and Telecommunications (MPTC) of Cambodia, this tool provides a reliable, context-aware service tailored to the nuances of the Khmer language. It empowers local communities by breaking down language barriers in public service delivery, educational, business, and everyday contexts while ensuring user data is securely stored on local servers.

Name in original language

កម្មវិធីបកប្រែ TranslateKH

Initiative overview

An AI-powered machine translation platform available on Web, iOS, and Android. It utilizes Deep Learning and Large Language Models (LLMs) to deliver highly accurate, context-aware, sentence-based translations rather than just word-for-word conversion.

Name of responsible organisation (in English)

General Department of ICT, Ministry of Post and Telecommunications (MPTC)

AI Tags

Innovation, AI-enabling Ecosystem, Sustainable Development, Trustworthy AI, Language AI, Machine Translation

About the application initiative

Cambodia

Organization:	General Department of ICT, Ministry of Post and Telecommunications (MPTC)
Category:	AI policy initiatives, programmes and projects
Initiative type:	AI use cases/projects in the public sector
Status:	Active
Start Year:	2024
Binding:	Non-binding
Target Sectors:	Public services Education Digital Economy
OECD AI Principles:	**2.1** Investing in AI research and development

Cambodia Antimicrobial Resistance Prediction Application (CAMPRA)

🌐 N/A

This project applies machine learning (ML) to analyze antimicrobial resistance (AMR) data and build a predictive model using local hospital data to support better antibiotic treatment decisions, specifically, at Calmette Hospital.

It is a collaboration between the University of Health Sciences, Calmette Hospital, CADT, and French partners (SESSTIM and Hôpital Européen de Marseille) and supported by the French Embassy in Phnom Penh Cambodia. CADT plays the role to implement the model training and selection process and develops a bedside application to guide antibiotic prescriptions based on predicted susceptibility.

Name in original language

ការប្រើប្រាស់កម្មវិធីបញ្ញាសិប្បនិម្មិត (AI) ដើម្បីក្រាត់បន្ថយភាពស៊ាំនៃឱសថ
ប្រឆាំងមេរោគ (AMR) តាមរយៈការធ្វើឱ្យប្រសើរឡើងនូវការចេញវេជ្ជបញ្ជាថ្នាំសាស្ត្រ ក្នុងចំណោមអ្នកផ្តល់សេវាថែទាំសុខភាពនៅកម្ពុជា

Initiative overview

The project aims to leverage machine learning (ML) techniques to analyze antimicrobial resistance (AMR) data and develop an AMR predictive model from locally input data based on machine learning techniques. This initiative will aid clinicians in understanding resistance patterns and making informed treatment decisions.

French data scientists brought assistance in machine learning model training, the Cambodian and French infectious diseases experts' contributions include local data inputs, contexts, and support in data cleaning process.

The CADT's main task in this project is to perform the ML model training on the data extracted from Calmette Hospital with the support from the French data scientist team, identified the best ML model that could predict levels of AMR (in other words, antibiotic susceptibility probability), and develop an application that could be used at bedside to guide clinical decisions in terms of antibiotic prescription (based on the antibiotic susceptibility probability that the ML model predicts).

Name of responsible organisation (in English)

- University of Health Sciences (UHS)
- Cambodia Academy of Digital Technology (CADT)
- Calmette Hospital
- SESSTIM, Marseille, France
- French Embassy in Phnom Penh, Cambodia

About the application initiative

Cambodia

Organization:	• University of Health Sciences (UHS) • Cambodia Academy of Digital Technology (CADT) • Calmette Hospital • SESSTIM, Marseille, France • French Embassy in Phnom Penh, Cambodia
Category:	AI policy initiatives, programmes and projects
Initiative type:	AI use cases/projects in the public sector
Status:	This project was completed in **August 2025.** Currently, this project has been put into trial use in Calmette Hospital.
Start Year:	2024

HealthyRice

N/A

An AI-powered mobile application designed to provide Cambodian farmers with real-time diagnostic support for rice diseases, offering localized expert advice to safeguard crop yields and improve food security.

Name in original language

HealthyRice

Initiative overview

HealthyRice is an intuitive mobile platform designed to empower farmers with instant diagnostic tools for rice diseases. By leveraging advanced Artificial Intelligence (AI) for automated image analysis, the app provides immediate, actionable solutions to protect crop yields. Key features include:

- AI-Driven Diagnostics: Instant recognition of rice diseases via image capture by smartphone's camera.
- Localized Accessibility: Full support for Khmer text and voice search.
- Actionable Insights: Comprehensive cultivation guides and expert advice delivered via real-time notifications.
- Intuitive Design: A user-friendly interface tailored for ease of use in the field.An AI-powered machine translation platform available on Web, iOS, and Android. It utilizes Deep Learning and Large Language Models (LLMs) to deliver highly accurate, context-aware, sentence-based translations rather than just word-for-word conversion.

Name of responsible organisation (in English)

- Research Institute for Development (IRD)
- CIRAD (French Agricultural Research Centre for International Development)
- National University of Battambang (NUBB)
- Royal University of Agriculture (RUA)
- Institute of Technology of Cambodia (ITC)
- Cambodia Academy of Digital Technology (CADT)

About the application initiative

Cambodia

Organization:	• Research Institute for Development (IRD) • CIRAD (French Agricultural Research Centre for International Development) • National University of Battambang (NUBB) • Royal University of Agriculture (RUA) • Institute of Technology of Cambodia (ITC) • Cambodia Academy of Digital Technology (CADT)
Category:	AI policy initiatives, programmes and projects
Initiative type:	AI use cases/projects in the public sector
Status:	This project is still ongoing under the research and development, and we expect to launch this project by the end of 2026.
Start Year:	2024