

## Rattanak UNG

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Phnom Penh, Cambodia  
[rattanak.info](http://rattanak.info)

# Curriculum Vitae

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## PERSONAL INFO

Last name: UNG  
First name: Rattanak  
Date of birth: December 12, 1983  
Place of birth: Sangkat N0 4, Phnom Penh  
Sex: Male  
Marital status: Married with two children  
Present address: #14BE0, St.219, Psar Deop1, Tuol Kok, Phnom Penh

## PROFESSIONAL SKILL

- Technical Proficiency: A very strong knowledge of ICT technology and systems.
- Leadership and Management: Years of experience in leading and guiding senior and junior developers.
- Communication and Collaboration: Strong and efficient communication and collaboration skills.
- Strategic Planning, Project Management, Problem Solving, Troubleshooting, Business Acumen.
- AI Technology Knowledge: Machine Learning and Deep Learning concepts with various AI tools.
- Programming Skills: PHP and Framework (Laravel, CodeIgniter, and TALL Stack), CMS (WordPress and Typo3), and Moodle (Learning Management System), Python with FARM Stack (FastAPI, React, and MongoDB).

- Front-end Development: React.js - NextJS, HTML, JavaScript, CSS, Tailwind CSS, AlpineJS
- Mobile App: React Native and knowledge of Swift for iOS
- GIS Technology: GeoNode CMS, ArcGIS, QGIS, [Leaflet.js](#), OpenLayers and Google Maps API.
- Databases: MySQL, PostgreSQL, MongoDB and PostGIS & GIS
- Development Environment: Full-stack development, Frontend and Backend development, OOP modelling, MVC Framework
- DevOps Environment: Docker, CI/CD, Git
- Server Environment: Linux Server, VMware, and Various cloud hosting services.
- Cloud Hosting Familiarity: Digital Ocean, Azure, AWS, and GoDaddy.
- Operating System: Any Windows Operating System, Mac OS, and Linux
- Daily Working Environment and Tools: Google Workspace, MS 365, Jira, Confluence, MS Project, MS Visio, Draw.io, Mural.co and Figma
- Architecture Skill: Use Case Diagrams, Software Architecture, Business Workflow Diagram, Data Modelling, Database Design (ERD), Data Flow and System Context Diagram
- Other reports and discovery references are available upon request.
- Consistently staying informed about emerging technologies and global industry trends.

## SPECIFICATIONS

To show the skills I have developed, I would like to present several enterprise case studies and completed projects that provide clearer insight, as follows:

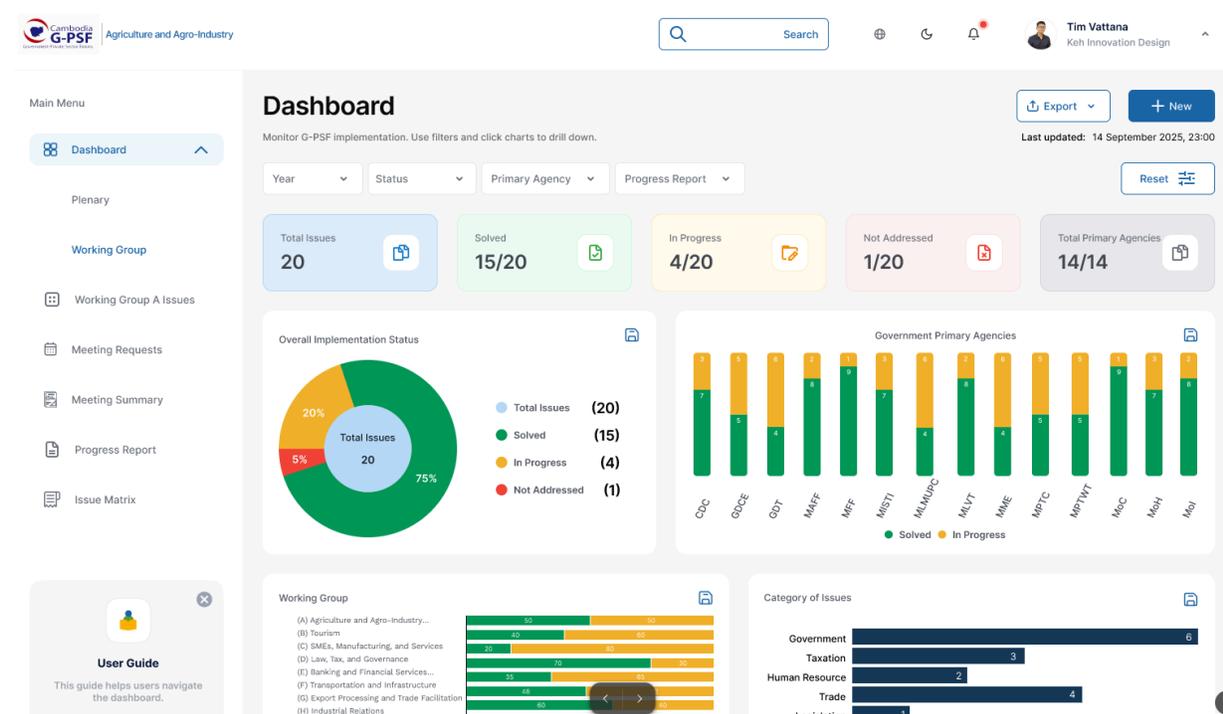
### Case Study: Feasibility Study for CAPRED on G-PSF MIS

**Project Role:** Technical Lead “Consultant”

**Project Overview:** The Cambodia Australia Partnership for Resilient Economic Development (CAPRED) is supporting the Council for the Development of Cambodia (CDC) in enhancing the Government-Private Sector Forum (G-PSF) through the development of a modern, secure web-based Management Information System (MIS). As part of this initiative, the assignment

encompasses conducting stakeholder consultation interviews to clarify user needs and functional requirements, presenting feasible MIS development options, designing the proposed MIS in alignment with international best-practice security standards suitable for national deployment, and preparing a comprehensive Terms of Reference (ToR) for the MIS development firm recruitment.

**Screenshot:**



**Case Study: Health Science Institute of RCAF Learning Management System Development and Network Infrastructure Design.**

**Project Role:** Project Manager

**Project Overview:** The GIZ Improving Social Protection and Health (GIZ-ISPH) programme is providing technical assistance to enhance the Royal Cambodian Armed Forces (RCAF) Health Services Institute through the development and implementation of a Learning Management System (LMS) and the enhancement of its network infrastructure. The project focuses on designing a comprehensive LMS platform, configuring a functional prototype, integrating key training content, and establishing seamless connectivity with the existing student assessment system. In addition, it includes capacity-building support to ensure long-term sustainability and the installation and configuration of a secure network environment, enabling reliable and secure

LMS access for hundreds of students. To accomplish this, an SOP for MIS security were developed by a certified **ISO/IEC 27001** certificate consultant.

**Screenshot:**



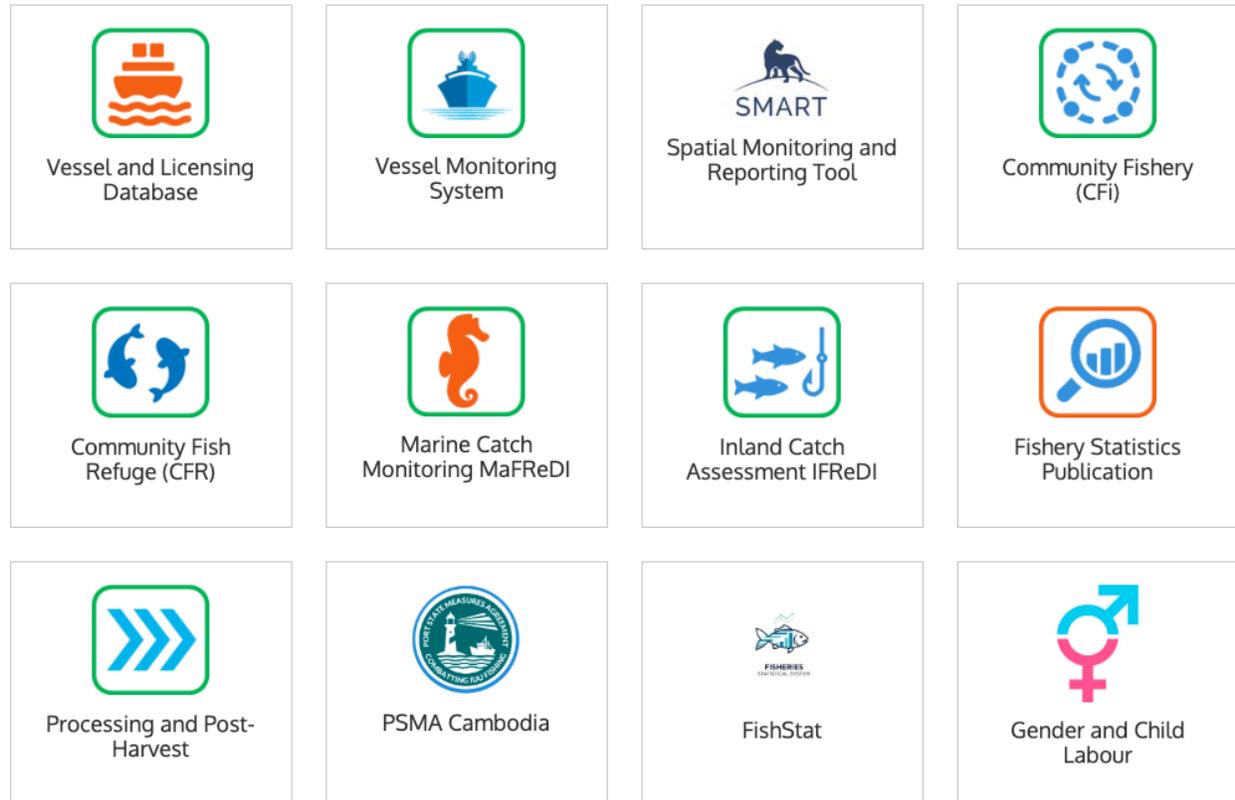
## Case Study: Fisheries Administration - Technical Advisor (Database - Fisheries)

**Project Role:** National Technical Advisor (Database - Fisheries)

**Project Overview:** The UN-FAO has largely completed a web-based Vessel Database, including a fish licensing module and reporting tools, now integrated into the Fisheries Information Management System (FIMS) and accessible to trained FiAC staff. To finalise FIMS and the FiA FishStat reporting system, additional development, interface refinement, and user-driven improvements are still needed, along with continued capacity building and IT support. The National Technical Advisor will assist FiA at national and sub-national levels to fully integrate FIMS and FishStat into officers' workflows, to achieve full operationalisation in 2025. As a result, most of the databases of FIMS were consolidated, configured and migrated to the MAFF ICT Environment successfully at the end of 2025.

**Screenshot:**

**Fisheries Information Management System**



**Case Study: IDPoor Web Application - Ministry of Planning**

**Project Role:** Partially - Product Owner

**Project Overview:** Multi-million record platform, collaboration with multiple stakeholders, import of existing data, data security, microservice architecture.

IDPoor is a central database that identifies and keeps a record of Cambodians living in poverty. The data is publicly accessible via <https://mop.idpoor.gov.kh/>. NGOs, field workers, and the government use the database to identify vulnerable families and individuals in need of support and verify the financial status of individuals seeking help. The system was created by GIZ, the Ministry of Planning, Mainlevel AG consulting, and a local implementation partner. However, the first version was not usable and was overhauled. Rattanak and his dynamic and robust team has come on board to help with the development and technical solution for IDPoor as a cloud-based solution with Microservices architecture to support country-wide accessibility. This included bug fixing and preparing the software ready for the relaunch of the overhauled system.

**Simple User Experience:** The database is designed to be easy to use for multiple stakeholders and is fully multilingual to support Khmer and international users. The interface is simple and clear for users who are not so confident with computers.

**Analytics and interactive reporting:** The system has multiple analytics functions to support reporting on different demographics. For example, the World Food Programme uses an API from IDPoor to populate their own interactive map of poor households to enable them to support and respond to the most vulnerable during natural disasters. The Ministry of Health uses the system as a data source as part of its equity card welfare system.

**User access control:** Privacy and security is built-in using Keycloak, meaning sensitive personal information is only accessible by authorized personnel.

**Decentralized data collection in low coverage areas:** There is an API to a mobile app so that offline data collected about households out in the field can be synced to the web app/server once a connection is available.

**Website:** <https://app.idpoor.gov.kh/>

**Screenshot:**



**Remarks of Case Studies:** Leveraging successful case studies, I have demonstrated strong expertise in software development, network infrastructure implementation, cybersecurity, and the application of ICT best practices aligned with ISO/IEC 27001, along with extensive experience in feasibility studies and report writing. My work spans multiple sectors, including government projects, enterprise sector and International/Local NGOs.

## SOME HIGHLIGHT PROJECTS ACCOMPLISHMENT

Project Name	Tech-Stack	Remarks
CAPRED G-PSF Feasibility Study Role: Technical Lead	<ul style="list-style-type: none"> <li>- Research methodology</li> <li>- Project management</li> <li>- System Architecture</li> <li>- Network and Cyber Security</li> </ul>	- Feasibility of G-PSF MIS Report
Fisheries Statistic - Database Role: Developer	<ul style="list-style-type: none"> <li>- Laravel - TALL Stack</li> <li>- MySQL</li> </ul>	- <a href="#">Web link</a>
Vessel and Licensing Marine Database Role: Developer	<ul style="list-style-type: none"> <li>- Laravel - TALL Stack</li> <li>- MySQL</li> </ul>	- <a href="#">Web link</a>
Tracking Forestry and Other Land Use (FOLU) sector indicators using the CEMIS platform Role: Project Manager	<ul style="list-style-type: none"> <li>- GeoNode</li> </ul>	- <a href="#">Web link</a>
Citizens' Budgets Web Application Role: Technical Lead	<ul style="list-style-type: none"> <li>- Laravel - TALL Stack</li> <li>- MySQL</li> </ul>	- <a href="#">Web Link</a>
Civic Grant Engagement Web Application Role: Technical Lead	<ul style="list-style-type: none"> <li>- Laravel - TALL Stack</li> <li>- MySQL</li> </ul>	- <a href="#">Web Link</a>
<a href="#">Case Management System for ACE</a> Role: Project Manager	<ul style="list-style-type: none"> <li>- Java, Next JS</li> <li>- MongoDB</li> <li>- Microservices</li> </ul>	-
<a href="#">Data Collection Tools for Forestry Deforestation, Reforestation, and Conservation in Liberia</a> Role: Developer	<ul style="list-style-type: none"> <li>- PHP Laravel</li> <li>- PostgreSQL</li> <li>- React Native</li> <li>- On/offline func.</li> </ul>	-
<a href="#">Country M&amp;E Web-Based System Development</a> Role: Technical Lead	<ul style="list-style-type: none"> <li>- PHP Laravel</li> <li>- PostgreSQL</li> <li>- KoboToolBox</li> </ul>	-
ICT Consultant for HSI	<ul style="list-style-type: none"> <li>- Server</li> <li>- Network</li> </ul>	- <a href="#">Web Link</a>

Role: Project Manager	- PHP - Moodle	
IDPoor Website Role: Project Manager	- PHP - WordPress	- <a href="#">Web Link</a>
IDPoor Web Application Role: Partial Project Manager	- Java SpringBoot - MongoDB - Microservices - <b>Leaflet.js</b>	- <a href="#">Web Link</a>
Child Protection Moodle eLearning Platform Role: Developer	- PHP - Moodle	- Not Available
People Living with HIV (PLHIV) Registration (Mobile App) Role: Project Manager	- React Native - On/Offline mode	- <a href="#">Mobile Link</a>
Abundant Life - AL the Bot Discovery Project Role: Consultant	- Multiple knowledge and skill set	- <a href="#">Ref Report</a>
Abundant Life Mobile App Minimum Viable Product (MVP) Role: Developer	- React Native	- Not Available
Vessel Database Management System Role: Advisor	- PHP Laravel - PostgreSQL	- <a href="#">Web App</a>
FIA Public Website Role: Advisor	- PHP - WordPress	- <a href="#">Web Link</a>
National Committee for Sub-national Democratic Development Secretariat (NCDDS) CAMBODIA NUTRITION PROJECT Role: Project Manager	- PHP Laravel - PostgreSQL - KoboToolBox	- <a href="#">Web Link</a>
Accreditation Committee Cambodia Role: Project Manager	- PHP Laravel - PostgreSQL - KoboToolBox	- <a href="#">Web Link</a>
Network Infrastructure Improvement and Server Setup for Health Science Institution	- Linux Server - Docker - Wifi Controller	- <a href="#">Web Link</a>

Role: Project Manager & Developer		
Smart Business (Mobile App & Web App) Role: Developer	- PHP CodeIgniter - MySQL - Java for Android	- <a href="#">Project Website</a>
Performance management system Role: Developer	- PHP CodeIgniter - MySQL - Google Chart	- <a href="#">Project Website</a>

**WORK EXPERIENCES**

June 2021 - December 2025:  
[Food and Agriculture Organization of the United Nations \(UN-FAO\)](#)  
National Database Advisor

Being a National Database Advisor for such the biggest international standard like the UN; I am accountable for the smooth functioning running of the whole Fisheries Administration’s technology, including but not limited to the following:

- Advice and later on implement cloud/physical server options and in collaboration with other staff and stakeholders deploy multiple databases and public websites such as: Administration Official Website, Vessel Database, VMS Database, SMART Database, DFA Database, CFI-CFR Database, IFReDI Catch, MaFReDI Catch, and IFReDI/MaFReDI Super Admin.
- Advice and hand on developing an Official Website using WordPress, providing training, monitoring and follow-up, and regular content updating
- Develop a Vessel Database management system, detailed database documentation, and manuals for all aspects of the user interface and administration.
- Monitoring: Continuously monitor the health, performance, and availability of your cloud resources, including servers, databases, and applications. Implement monitoring tools to track resource utilization, response times, error rates, and other relevant metrics.
- Security: Regularly assess and update the security measures of your cloud infrastructure. This includes applying security patches and updates, configuring firewalls, implementing access controls, managing user permissions, and monitoring for any suspicious activity or vulnerabilities.
- Backups and Disaster Recovery: Set up regular backups of your data and applications to protect against accidental data loss, system failures, or cyber-attacks. Implement a robust disaster recovery plan that includes backup strategies, replication, and restoration procedures to minimise downtime in case of any unforeseen events.

- Scalability and Performance Optimization: Analyze resource usage and performance metrics to ensure that your cloud infrastructure can handle the expected workload. Scale resources up or down as needed to meet demand and optimize performance. This may involve load balancing, auto-scaling configurations, database tuning, and caching strategies.
- Capacity Planning: Monitor resource utilization trends and plan for future growth or changes in usage patterns. Evaluate the need for additional resources or services to accommodate increasing demands, such as increased storage capacity, additional instances, or load balancing.
- Cost Management: Regularly review and optimize your cloud costs. Monitor usage patterns, identify any idle or underutilized resources, and adjust your infrastructure accordingly. Utilize cost management tools provided by your cloud service provider to track expenses and implement cost-saving measures.
- Upgrades and Patching: Keep your cloud infrastructure up to date by applying software updates, patches, and security fixes regularly. This ensures that you benefit from new features, bug fixes, and security enhancements provided by the cloud service provider.
- Incident Response: Establish incident response procedures to address any issues or disruptions that may arise. This includes identifying and prioritizing incidents, notifying relevant stakeholders, investigating and resolving problems, and conducting post-incident reviews to identify areas for improvement.
- Compliance and Governance: Ensure that your cloud hosting environment complies with industry standards and regulatory requirements specific to your business. Implement necessary security controls, data protection measures, and auditing processes to meet compliance obligations.

Documentation and Knowledge Sharing: Maintain documentation for your cloud infrastructure, including configurations, workflows, and troubleshooting procedures. Promote knowledge sharing among your team members to facilitate efficient collaboration and ensure continuity of operations.

**January 2022 – October 2024:**

**[Web Essentials](#) - Technical Solution and Project Manager “Part-Time”**

With more than 20 years of experience in developing and handling multi-projects with strict delivery deadlines stakeholders and with a high-quality standard. Led me to be entrusted by the company to work on multiple projects and roles including as developer and technical lead. However, those roles are not limited to the common tasks as the following:

- Software Architecture: Developing technical concept and architecture design, including sophisticated microservices architecture models, use case architecture, database design, and ERD.
- Estimation Lead: Define work scope, deliverables, and proof of the concept from the start
- Define User Requirements: Led client and developer teams to ensure service quality and project goals
- Coordinate, recommend, and report with internal teams, management, client and stakeholders
- Code Leading: Define and lead on the code writing and procedure by defining main classes and methods for regular re-use
- Hand-on developing from scratch and showing the example to junior how that work proceeds.
- Continuous Integration (CI): Setting up and maintaining a CI system to enable developers to merge their code changes frequently and automatically run tests to detect integration issues early.
- Continuous Delivery (CD): Automating the release and deployment processes to ensure that software changes can be quickly and reliably delivered to production environments.
- Infrastructure as Code (IaC): Using tools like Terraform, Ansible, or CloudFormation to define and provision infrastructure resources programmatically, treating infrastructure configuration as code.
- Configuration Management: Managing and automating the configuration of software systems, including the deployment of application servers, databases, load balancers, and other infrastructure components.
- Deployment Automation: Developing and maintaining scripts, templates, or workflows that automate the deployment of applications to various environments, ensuring consistency and minimizing manual errors.
- Monitoring and Logging: Implementing systems to monitor the performance, availability, and health of applications and infrastructure, as well as collecting and analyzing logs to troubleshoot issues.
- Release Management: Planning and coordinating software releases, including versioning, change management, and rollback strategies, while ensuring minimal disruption to production environments.

## October 2017 – 2021: [DCX SEA](#) - Head of ICT

As the Head of ICT (Information and Communication Technology), my role is to lead and oversee the ICT department, ensuring the effective management of technology infrastructure, systems, and services within the organization. With a strong technical background and expertise in ICT, I

provide strategic direction and guidance to align technology initiatives with the organization's goals. I lead a team of talented professionals, fostering collaboration, and inspiring innovation to drive technological advancements. By leveraging my leadership and management skills, I effectively plan, execute, and monitor ICT projects, ensuring they are delivered on time, within budget, and meet quality standards. Additionally, I prioritize information security, implementing robust cybersecurity measures and ensuring compliance with data privacy regulations. With strong communication and collaboration skills, I engage with stakeholders at all levels, bridging the gap between technical and non-technical teams. I continuously stay updated with emerging technologies and industry trends, fostering a culture of learning and driving the organization's digital transformation. As the Head of ICT, I am committed to leveraging technology as a strategic asset to enable business growth and drive operational excellence. All and all, my daily task were involving but were not limited to the following common tasks:

- Requirements Analysis: Understanding and analyzing the requirements of the web application, including functionality, user interface, and technical specifications.
- Application Design: Creating the overall architecture and structure of the web application, including database design, user interface design, and system integration.
- Front-end Development: Implementing the user interface and user experience (UI/UX) design using web technologies such as Vue JS, Nuxt JS, HTML, CSS, and JavaScript. This involves creating visually appealing and responsive web pages.
- Back-end Development: Building the server-side logic and functionality of the web application. This includes implementing business logic, database connectivity, data processing, and integration with external systems or APIs. Normally it often involves using programming languages like PHP, Java, and frameworks such as Laravel, CodeIgniter or even fresh PHP in the programming model of OOP with/without MVC framework.
- Database Management: Designing and managing the database that stores the application's data. This includes creating database schemas, writing queries, optimizing database performance, and ensuring data integrity.
- Testing and Debugging: Conduct thorough testing of the web application to identify and fix any bugs or issues. This involves writing and executing test cases, performing debugging, and ensuring the application functions correctly across different browsers and devices.
- Deployment and Maintenance: Deploying the web application to a web server or cloud platform, configuring server settings, and ensuring the application is accessible to users. Additionally, monitoring and maintaining the application's performance, security, and scalability over time.

October 2013 – October 2017:

[WahterSHED Asia](#) - Business Intelligence Manager

The Business Intelligence Unit was designed to ensure the business process and the data quality assurance of the whole organization to meet the highest standard requirements. In anticipation for higher productivity, BIU has set a clear goal, produced the Strategic Plan, and shared with relevant stakeholders, including partner organizations and government agencies. Normally, BIU focuses on collecting and validating primary and secondary data by using various data collection tools using different technology depending on the type of project, as briefly described above, ranging from ensuring proper stock control to performance management systems. Just to name a few, the ODK platform, storage API which links to our server, Kobo Toolbox, Fulcrum, etc., were designed and used to maintain records as well as measure changes over time according to the WaterSHED's results framework; and these are my key responsibilities.

In addition, I did data analyses and helped to prepare organizational strategies as well as operational decisions. I took part in exploring innovative approaches or business platforms starting from software to hardware in order to enable the most outputs of the project. More importantly, one of the achievements was that BIU, under my initiative for developing a robust data collection tool, call Smart Business App for our stakeholders' daily usage, ultimately got a grant from DI (Development Innovations Cambodia, USAID). As part of my responsibility, I did many presentations about the achievements and challenges of the entire organization to local and international partners.

**September 2007 – October 2013:**

[Khand Dangkor Tax office](#) - Software Developer

Being a developer back there in 2008, I am accountable for developing Tax Management System by using MS Access to manage the entire tax process including tax collection and recording systems, and issuing invoices and regular reporting system. I provided training courses to staff about the program so that they could take over the responsibilities. By being entrusted by the head of the tax department, I also assist on a daily basis with tasks of the office work such as helping to enter the data and drafting correspondences for the head of the Tax Office at Khand Dangkor and also responsible for IT-related tasks and administration for Tax Office and that has smoothened the operation, especially monthly income tax records, over the specified period.

**July 2004 – June 2007:**

[Habitat for Humanity International-Cambodia \(HFHI-C\)](#)

IT and Communication Officer

As an IT and Communication Officer, I played a crucial role in supporting the smooth functioning of an organization's technology infrastructure and providing general support to the communication team, especially consistently providing support in making videos, updating

content to the website. I also provide essential technical assistance and support to the IT department, users, email accounts, and general support for staff's pc, regular updates and maintenance as well. From the basic addressing of help desk inquiries and troubleshooting technical issues to assisting with software and hardware installations, my responsibilities at that time were gradually mixed with a wide range of tasks. I consistently contribute to maintaining system performance, ensuring general staff satisfaction, and promoting efficient IT operations in the office as well. With my attention to detail, problem-solving skills, and collaborative approach, I enabled and helped create a reliable and productive technology environment for the organization as a whole.

## **EDUCATION RECORDS**

- 2020 - 2021: First year of Master of Computer Science.  
University of People (Online) - **Dropout**
- 2002 - 2006: Bachelor's Degree majoring in Economics Informatics  
Royal University of Law and Economics (RULE), Cambodia.
- 1999 - 2002: High School, Sisovath HS, Cambodia
- 1996 - 1999: Junior High School, Boeng Keng Kang High School, Cambodia