



**Tinhvân**  
TOGETHER WE SHINE

Digital Synergy

# CATALOGUE

Products and Services

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TINHVAN TECHNOLOGIES JOINT STOCK COMPANY  
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Tinhvan Group

Digital Synergy

**Tinhvân**  
TOGETHER WE SHINE

# ORGANIZATION STRUCTURE

Tinhvan Group

## TINHVAN TECHNOLOGIES JOINT STOCK COMPANY

Tinhvan Holdings (TVH)

Chairman : **Hoang To**

General Director : **Nguyen Quan Son**

Executive Vice General Director : **Tran Xuan Lam**

Financial Vice General Director : **Pham Thu Hang**

**Finance  
Accounting**

**Human  
Resource**

**Public Relations**

**Information  
System**

**Quality  
Assurance**

**TVLab**

**Tinhvan Solutions**

**Government, Finance,  
Banking Sector**

**TVS**

Chairman: **Nguyen Son Tung**  
CEO: **Tran Thanh Trung**

**Tinhvan Consulting**

**Enterprise Sector**

**TVC**

Chairman and CEO:  
**Nguyen Huy Cuong**

Representative office  
in Ho Chi Minh City  
**TVCHCM**

**Tinhvan Outsourcing**

**International Export  
Market**

**TVO**

Chairman: **Nguyen Quan Son**  
CEO: **Nguyen Ich Vinh**

Branch in HCMC  
**TVOHCM**

Representative office  
in Da Nang  
**TVODN**

Branch Company  
in Japan  
**TVJP**

**Tinhvan Telecom**

**Digital Content and  
Mobile Marketing**

**TVT**

Chairman: **Hoang To**  
CEO: **Tham Duc Thang**

**Tinhvan Education**

**Education Sector**

**TVE**

Chairman and CEO  
**Pham Thuc Truong Luong**

**Tinhvan HCMC**

**The South Market**

**TVHCM**

Director: **Chu Giang Nam**

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TIS Intec Group officially became a strategic partner of Tinhvan Group (06/2018)












**TINHVAN PRODUCT ECOSYSTEM**

<b>GENERAL SOLUTIONS</b>	
<b>EDUCATION SOLUTIONS</b>	
<b>GOVERNMENT, FINANCE &amp; BANKING SOLUTIONS</b>	
<b>SOFTWARE SERVICES</b>	
<b>DATA SERVICES</b>	
<b>AI PRODUCTS</b>	

# CATALOGUE PRODUCTS AND SERVICES

PRODUCTS - SERVICES		DEVELOPMENT/ IMPLEMENTATION COMPANY	MARKET				CLOUD COMPUTING SUPPORT	PAGE
			Government	Enterprise	Finance & Banking	Education		
 <b>Libol</b> Bring Library Online	<b>Digital Library and Integrated Library Solution</b>	TVE	√	√		√	10	
 <b>Libol</b> bookworm	<b>Bookworm e-Books Circulation Solution</b>	TVE	√	√		√	12	
 <b>HiStaff</b> PROFESSIONAL HRM SOLUTION	<b>HRM Solution</b>	TVC	√	√	√	√	14	
 <b>TViS</b>	<b>iPortal Solutions</b>	TVS	√	√	√	√	16	
 <b>Foldio</b> QUALITY. EFFICIENCY. COLLABORATION.	<b>The Comprehensive Managing Solution of Business Records, Documents and Processes</b>	TVS	√	√	√	√	18	
 <b>eFile</b>	<b>Archive Document Solutions</b>	TVH	√	√	√	√	20	
 <b>CLEVER</b> Smart and Micro Learning	<b>Clever e-Learning and Training Management Solution</b>	TVE	√	√	√	√	22	
 <b>OMEGA TEST</b>	<b>Omega Test e-Testing Solution</b>	TVE	√	√	√	√	24	
 <b>classbook</b>	<b>Classbook.vn - Digital Textbook</b>	TVE	√	√		√	26	
 <b>Edito</b>	<b>Edito e-Book Publishing Platform</b>	TVE	√	√		√	28	
 <b>SMARTSCHOOL</b>	<b>Intelligent Education Ecosystem</b>	TVE				√	30	
 <b>QUALITA</b> HỆ THỐNG QUẢN LÝ TÀI SẢN	<b>Asset Management Solutions</b>	TVS	√	√	√	√	32	
 <b>Banking API Portal</b>	<b>API Managing Solution for Banking and Insurance Sector</b>	TVS	√	√	√	√	34	
 <b>IBM ESB</b>	<b>Enterprise Service Bus</b>	TVS	√	√	√	√	36	

# CATALOGUE PRODUCTS AND SERVICES

PRODUCTS - SERVICES	DEVELOPMENT / IMPLEMENTATION COMPANY	MARKET				CLOUD COMPUTING SUPPORT	PAGE
		Government	Enterprise	Finance & Banking	Education		
 <b>eBudget</b> State Budget Planning Software Solution (Level I, II, III)	TVS	√					38
 <b>KITANO</b> Internal Auditing Solution	TVS		√	√			40
 <b>BANK AVENGERS</b> Distribution Channels Solution for Banking Financial Services	TVS		√	√	√		42
 <b>OutSourcing</b> Software Development Outsourcing	TVO	√	√	√	√	√	44
 <b>MOBILE APPLICATIONS</b> Mobile Applications and Solutions Development Services	TVS	√	√	√	√		46
<b>DATA SERVICES</b> Data Services	TVLab	√	√	√	√		48
 <b>cube One</b> Column Level Encryption Solution supporting Encrypted Index Search	TVS	√	√	√	√		50
 <b>TRILLIUM SOFTWARE</b> Leading Solution For Standardization And Cleaning Data	TVS	√	√	√	√		52
 <b>CREDIT SCORING</b> Solutions for Other Financial Organization with The Aims of Determining Customers' Repayment Capability	TVH			√		√	54
 <b>REPORT++</b> Intelligent Data Analysis And Administration System	TVS	√	√	√	√		56
 <b>HiFACE</b> HiFace Technology	TVH		√	√			58
 <b>AI VIRTUAL ASSISTANT</b> Chatbot Application	TVH	√	√	√	√	√	60
<b>SERVICE ROBOTS</b> Service Robots	TVLab	√	√	√	√	√	62

## DIGITAL LIBRARY AND INTERGRATED LIBRARY SOLUTION

### GENERAL OVERVIEW

Libol is a set of software solutions for Electronic Library - Digital Library, also is the brand accompany with Tinh Van for nearly 20 years. Libol is widely used in many large libraries throughout the country, and is included in the official curriculum for students of the Library and Archive department. Through many times of improvement and upgrading, the current version of Libol is built completely on the basis of cloud computing technology, especially helping libraries digitize massive resources, effectively supporting the professional work and helping library resources to be linked together.

### KEY FEATURES

- ✔ Support cataloging standard MARC 21, AACR-2, ISBD
- ✔ Support common classification frames
- ✔ Data import/export meets ISO 2709 standard
- ✔ Link to libraries and online Information Resources on the Internet
- ✔ Integrate with barcode devices, magnetic cards, RFID and automatic return - borrow devices
- ✔ Support multi-languages
- ✔ Full text search
- ✔ High customization
- ✔ Safe security and strict decentralization
- ✔ Diverse, detailed and intuitive search and statistics, serving all subject groups
- ✔ Operate effectively on large databases of millions of records
- ✔ Exploit and exchange information via web, email, GPRS (mobile phone) and devices to support the visual disables
- ✔ Compatible with both closed and open warehouse models
- ✔ Support library system with many warehouses

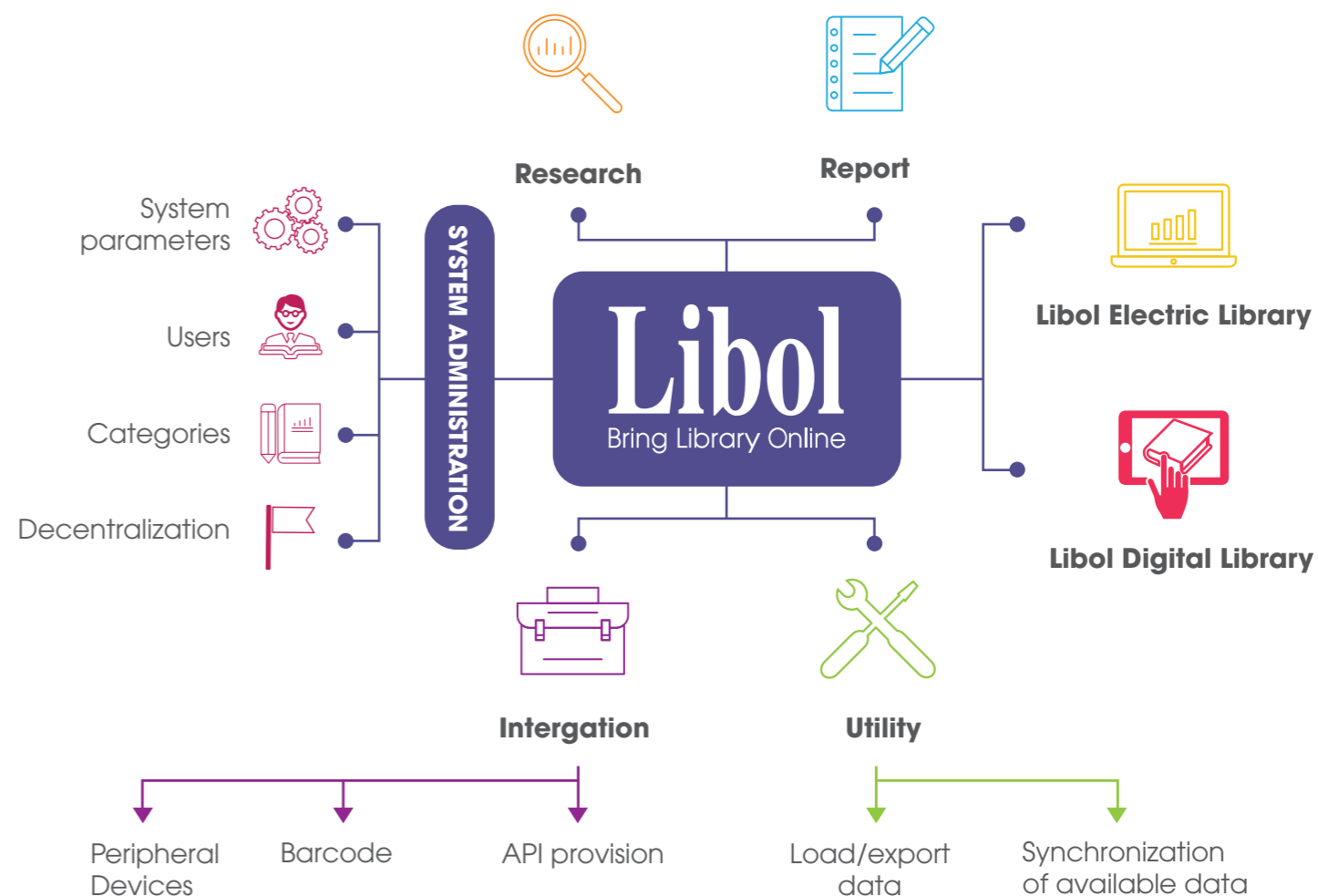
### MAIN MODULES

#### Main module of Libol Electric Library

- ✔ Warehouse supplement and management
- ✔ Cataloging module
- ✔ Periodical Publications management module
- ✔ Online OPAC search
- ✔ Reader management
- ✔ Circulation module
- ✔ Interlibrary loan module (ILL)
- ✔ System administration

#### Main module of Libol Digital Library

- ✔ Online OPAC database lookup module
- ✔ Digital resource module
- ✔ Reader Module
- ✔ Circulation module
- ✔ Category Module
- ✔ System administration module



### OUTSTANDING AWARDS

- ✔ Vietnam ICT Gold Cup Awards in 2002 and 2007
- ✔ Quality Award for 10 software and digital information production and trading enterprises with high achievements in 2005
- ✔ Sao Khue Awards in 2005 and 2007
- ✔ Merit of Minister of Information and Communication 2006

### TYPICAL CUSTOMERS

#### MINISTRIES, CENTRAL DEARTMENTS AND OTHER UNITS

General Sciences Library of Ho Chi Minh City; Hanoi Library; Library of Congress Office; Strategy Institute of Ministry of Public Security; National Agency for Science and Technology Information; The National Steering Committee on Information and Communication Technologies; Agricultural and Rural Development Information Center; Information Center - Ministry of Natural Resources and Environment; Bureau of State Records Management and Archives...

#### UNIVERSITIES, COLLEGES, ACADEMIES

National University of Hanoi; Hanoi National Economics University; Hanoi Law university; Hanoi Pedagogical University; University of Civil Engineering; University of Architecture; Agricultural University I; Hong Duc University; Maritime University; People's security Academy; Financial institutions; Police Academy, Military Technical Academy; Hanoi

### PARTNERS



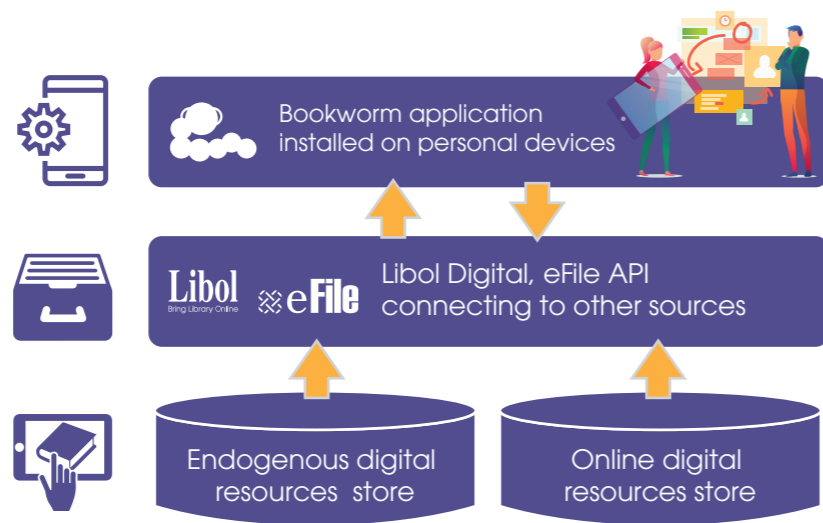
## BOOKWORM E-BOOKS CIRCULATION SOLUTION

### OVERVIEW

Libol Bookworm is a software developed on the base of inheritance of the outstanding features of Libol Digital Library Management System in conjunction with the application to borrow and read the Bookworm e-book. This is interactive electronic library software, connecting with other libraries from all schools, businesses, organizations ... built, developed for the purpose of managing and providing digital documents and e-books to reader effectively, quickly and conveniently, at the same time protecting and complying with electronic rights.

### TYPICAL CUSTOMERS

- National University
- Library of Congress Office



### KEY FEATURES

- ✔ Connect to the organization's Digital Library software
- ✔ Simultaneously exploit the library's endogenous digital resources repository and other parties' digital resources
- ✔ Support both forms of lending and selling documents
- ✔ Available for mobile devices
- ✔ Support standard ebook formats (PDF, ePub)
- ✔ Mechanism of connecting multimedia content and separate building interaction
- ✔ Tool of editing content
- ✔ DRM security encryption technology
- ✔ Connect online payment
- ✔ Integrate data with library software through the Dublin Core standard
- ✔ Readers exploit e-books easily anywhere, anytime via the Internet
- ✔ The library is available 24/7, without requiring direct communication with readers

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### READING BOOKS ON BOOKWORM

- ✔ MANAGE PERSONAL BOOKSHELVE
- ✔ MARK CURRENT READING PAGE FROM EACH DOCUMENT
- ✔ BOOKMARKING
- ✔ HIGHLIGHT, DRAWING
- ✔ TAKING NOTE
- ✔ EXPLOIT AND INTERACT WITH ATTACHED MULTIMEDIA CONTENTS

### BENEFITS FOR LIBRARY AND READERS WITH BOOKWORM



#### READERS

- ✔ Readers actively borrow, pay and download digital documents through the readers' accounts
- ✔ Content titles are available 24/7 ... anywhere, anytime
- ✔ All content formats are compatible with readers' devices
- ✔ Full-text search for digitized documents (PDF 2-layer) or text
- ✔ Look up according to the descriptive fields (metadata) including table of contents and keywords



#### CONTENT STORE

- ✔ Connect to Libol Digifol, eFile software or other digital library solutions
- ✔ Quality services of Library is always available 24/7 ... anywhere, anytime!
- ✔ The library can manage, track and report on online borrowing and returning in real time
- ✔ Digital copyright protection
- ✔ Maintain a circulation policy for electronic documents similar to paper documents (according to readers' usage rights and confidentiality of digital documents)

HiStaff is an indigenous, professional solution for the overall management of human resources for medium and large enterprises. Accumulating from 10 years of experience in deploying and operating for leading enterprises in Vietnam, HiStaff provides customers with an effective tool in exploiting and managing human resources with native and cultural characteristics of Vietnam, be able to integrate fully with international management systems such as ERP, CRM, SCM ...

Not only software, HiStaff also helps businesses optimize labor productivity through Performance consulting services.

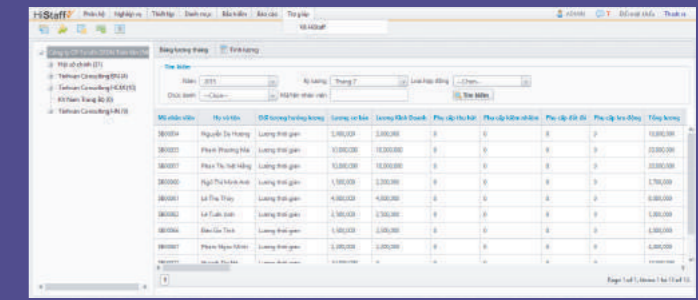
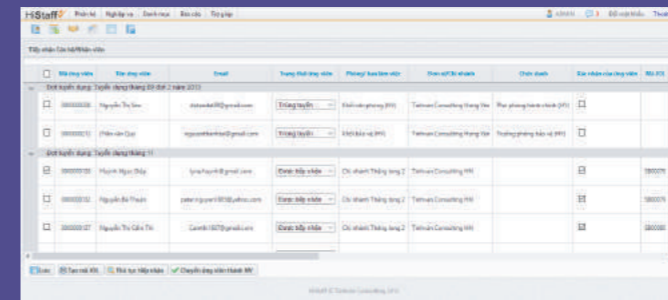
With the motto of companion and service, HiStaff aims to become a long-term partner to bring value to each customer.

### KEY FEATURES

- ✓ Not only a software, HiStaff is also a human resource management solution to support customers to improve human resource performance by accumulating and sharing the most advanced human resource management methods today.
- ✓ The system of KPI evaluation criteria strictly ensures the monitoring of work efficiency, managing job descriptions, managing talents, managing position routes
- ✓ Flexible payment formulas allow users to change the payment formula without intervention of providers. Applying many salary policies in the same business: Sales salary, KPI salary, products salary, Salary time. Flexible handling with backdate decisions affecting insurance, wages and other regimes such as allowances, benefits ...
- ✓ Dynamic reporting system allows users to set up report templates, flexible information queries, use operators, combine multiple search fields
- ✓ Mobile application, supporting many utilities: Online Approval, Online Recruitment, Online Timekeeping, Online Training Registration ...
- ✓ Fully integrated with other business governance systems, especially with ERP and core-banking systems

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### MAIN MODULE

- Personnel Profile Management iPROFILE
- Recruitment management iCRUIMENT
- Attendance management system iTIME
- Salary management iPAY
- Training management iTRAINING
- Performance management iPERFORMANCE
- System Administration ISECURE
- Human resource information portal iPORTAL
- REPORT SYSTEM

### OUTSTANDING AWARDS

- Sao Khue Awards in 7 years: 2008-2012, 2015, 2016
- Vietnam ICT Gold Cup Awards in 2008 and 2009
- Ho Chi Minh City Information Technology award in 2011
- Merit of Minister of Information and Communication

### PARTNERS





### OVERVIEW

TViS is a professional software solution built on modern technology platforms such as Oracle, Microsoft, and IBM serving for the construction of integrated Port (Portol) including Internet and Intranet systems; Integrated Public Services and operational applications. Accumulating nearly 20 years of deployment experience for ministries, departments, branches and government agencies as well as many domestic and foreign enterprises, TViS demonstrates the ability to operate stably, load capacity and security, especially suitable for integrating multi-platform services, aiming to solve e-Government problems; Integrated Public Services and operational applications.

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Set of software solutions  
**INTEGRATED INFORMATION PORT**

### KEY FEATURES

- Personalization and customization
- Login once, authentication and authorization
- Manage Portal and information site
- Integrate information sites
- Search Information
- Administer users
- Collect and publish information
- Backup and restore data
- Track diary
- Secure portal
- Content management and editing (CMS)
- Provide application services (public administrative services)
- Online exchange
- Online question and answer
- Online suggestions
- Mobile Version



### PARTNERS



### TECHNOLOGY FOUNDATION



- Office of National Assembly  
[www.quochoi.vn](http://www.quochoi.vn)
- Ministry of Finance  
[www.mof.gov.vn](http://www.mof.gov.vn)
- Vietnam State Treasury  
[vst.mof.gov.vn](http://vst.mof.gov.vn)
- State Bank of Vietnam  
[www.sbv.gov.vn](http://www.sbv.gov.vn)
- State Security Commission of Vietnam  
[www.ssc.gov.vn](http://www.ssc.gov.vn)
- General Department of State Reserves  
[gdsr.mof.gov.vn](http://gdsr.mof.gov.vn)
- Vietnam Academy of Social Sciences  
[www.vass.gov.vn](http://www.vass.gov.vn)
- Ministry of Justice  
[www.moj.gov.vn](http://www.moj.gov.vn)
- Radio Frequency Department  
[www.rfd.gov.vn](http://www.rfd.gov.vn)
- The Joint Store Commercial Bank for Investment and Development of Vietnam (BIDV)  
<https://bidv.com.vn/wps/portal/>
- Joint Store Commercial Bank for Foreign Trade of Vietnam:  
[www.vietcombank.com.vn](http://www.vietcombank.com.vn)
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# COMPREHENSIVE MANAGING SOLUTION OF BUSINESS RECORDS, DOCUMENTS AND PROCESSES

*Set of integrated solutions on the basis of Microsoft modern technology benefits the most optimal utilities for users at present and in the future.*

## BASIC UTILITIES

- Computerize the whole process of addressing profiles and documents
- Integrate many utilities
- Fast and accurate search
- Form library
- Flexible statistical reporting system

*Software solution for documents management and administration developed by Tinhvan Group is a perfect solution for units, fully meeting the needs of computerization of document, customers' work record management. The solution set is built on Microsoft modern technology that has strong point in handling, functional flexibility, stable operation, giving users a truly convenient and efficient working environment.*

## EFFECTIVE SOFTWARE SOLUTIONS ON MICROSOFT TECHNOLOGY

### 1 DOCUMENT MANAGEMENT

The software of document management and administration provides the means of effectively manage all types of documents in administrative activities, coming dispatches and work records so as to be easily and quickly updated, followed up according to different standards

- Document management (Incoming documents, Outgoing documents, documents for signatures, internal documents, sample documents)
- Work record management
- Legal document management



### 2 WORK RECORD ADDRESSING

Document management and administration software provides functionality to support the implementation of the whole addressing process of work record software:

- Support titles of authorization, secretaries
- System of work reminder and delivery via Email, SMS
- System of work diary taking, personal notes
- Electronic signature authentication system
- Link working calendar and event calendar

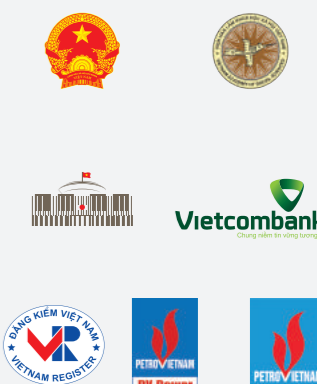
### 3 MOBILE VERSION FOR IOS AND ANDROID

Mobile version on IOS and Android platforms allow to manage and operate (especially suitable for managers to manage anywhere, anytime)



**With the experience of deploying for more than 20 units, we pledge to provide our customers with quality and effective software products in the application.**

## CLIENTS



## OVERVIEW

eFile is the "Plug and Play" package solution for document storage management.

This is the first integrated solution of Vietnam for this field and is an integrated system of background software, business software, system software and hardware needed for computerization storage management.

The professional software of the system consists of many modules corresponding to the main stages of a storage software.

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## eFile - KEY FEATURES

- Software can operate on any computer network with any size and architecture
- Operate effectively on large database of millions of records
- Web interface on all modules
- Compatible with international standard protocols Z39.50, OAI/PMH, MAC 21, DublinCore, Interbol, ...
- Multilingual Unicode support with data and working interface, simultaneous support of many Vietnamese encoding and spell checking ability
- Security in multiple levels and strict decentralization
- Full-text, simple and advanced search combines a variety of search conditions. High customizable capacity.
- Integrated with bar code devices, magnetic cards and RFID that support functions of printing, automatic barcode reading and print readers' cards to printers with customizable card templates
- Provide mechanism for building dictionary (reverse file) for fields that need to control consistency when importing documents and/or need to look up
- Visual display: If there is a warehouse ground plan, eFile will display to users visually the price position and the percentage of the price in an empty warehouse to match.
- Diverse, detailed and intuitive search, statistics serve all target groups

## eFile - MAIN FUNCTIONS

### 1.1. COLLECTIVE MODULE

Automate work, create annual collection plan, make a list of material components to be submitted and support to collect document quickly and accurately

### 1.2. CATALOGING AND EDITING MODULE

Allows catalogue quickly and accurately storage units of different types of documents. Automatically link catalog records with digitized files. Exporting the index of preservation units according to the form issued by the Bureau of Records Management and Archives

### 1.3. ONLINE EXPLOITATION MODULE

Provide a strong search mechanism through the Find mechanism on every information field, at the same time look up on a variety of documents, different storage fonts, limit the number of current preservation units for each group of readers and limit the number of displayed results set up on a search command by the Archive Center.

### 1.4. DATA EXPORT/IMPORT MODULE

Support XML format for exchanging records of storage units during data import/export process

### 1.5. FONT MANAGEMENT MODULE

Manage storage fonts, enter annual data, statistics, report according to storage font.

### 1.6. SYSTEM ADMINISTRATION MODULE

Create new, assign access and use rights to users into each function of each module, change users' rights. Set up the system parameters for the program to use during the work process. The system diary keeps track of the various features of the program, activities of each user at any time.



## CLIENTS



# CLEVER E-LEARNING AND TRAINING MANAGEMENT SOLUTION

## OVERVIEW

Clever is an e-learning solution developed on technology platform of open source code, helping organizations and businesses improve efficiency in training their employees with new forms. Clever supports the management of self-built or buying-out courses, organizing courses and assessing students, and is suitable for professional and soft skills training, helping students to acquire knowledge faster through brief lessons.

## MODEL OF CLEVER TRAINING SYSTEM

Online Learning (LMS)

Learning Management System (LMS)

Training Management System (TMS)

Cost Management System (TMS)

System Operation Management

Users Management

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## KEY FEATURES

### TECHNOLOGICAL PLATFORM

- ✓ Deploy based on platform of open source code Moodle
- ✓ Multilanguage and Vietnamese support (Unicode encoding)
- ✓ Operate on different devices: Computer, laptop, tablet, mobile phone

### HIGH CUSTOMIZABLE CAPACITY

- ✓ Create, customize programs, tools of training courses
- ✓ Easily create learning reports on demand
- ✓ Easily create customize settings as required by the organization

- ✓ Flexibly search and make statistics of data

Data exchange with other management systems such as HRM, CRM, ERP ...

- ✓ Data exchange

- ✓ Export data to another environment in standard XML format

### STANDARDIZATION

- ✓ Comply with eLearning standards (SCORM, IMS, IEEE ...) allowing the exchange of courses with other software

### SECURITY

- ✓ Apply different levels of security

- ✓ Allow decentralization to each different user

- ✓ Password is encrypted

- ✓ Easily integrate data with other software

- ✓ Login once, integrate with available user management system of the enterprise

## MAIN FUNCTIONS

eLearning and Micro-Learning Solutions



## TMS - TRAINING MANAGEMENT SYSTEM

- ✓ Teacher Management
- ✓ Course Management
- ✓ Learner Management
- ✓ User Management
- ✓ System Administration
- ✓ Communication Management
- ✓ Resource Management
- ✓ Course Management
- ✓ Subject Management
- ✓ Teacher Lease Contract Management
- ✓ Work Reminder
- ✓ Report

## DATA CONNECTION BETWEEN MODULES

- ✓ Online/Offline Course on TMS
- ✓ Results Update
- ✓ Results Inform
- ✓ Training Plan
- ✓ Students' Learning Route

## COMMUNICATION

- ✓ Event calendar
- ✓ Forum
- ✓ Chat and Online Support
- ✓ Message

## RESOURCES

- ✓ Glossary of terms
- ✓ FAQ
- ✓ Digital resource library



## CUSTOMERS



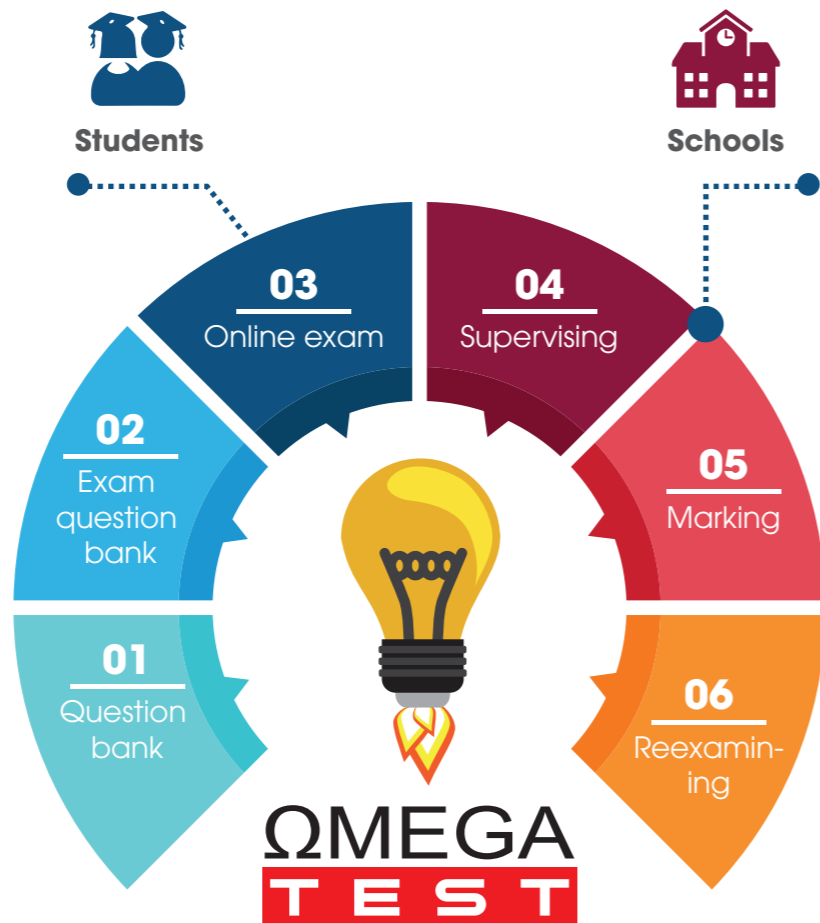
### OVERVIEW

Online software system for testing and evaluating foreign languages allows organizing online exam services with the process of exam strictly following the examination process of the Ministry of Education and Training: creating exam organization, creating question bank, create exam questions, the process of marking, reviewing, inspecting. The system fully supports all types exam according to Vietnamese 6 level foreign language competence framework. In addition, the system also supports other forms of exam such as general English exam, information technology capacity assessment competent to standard of the Ministry of Information and Communication.

### KEY FEATURES

- ✓ Follow the examination process of the Ministry of Education and Training
- ✓ Exam questions include the format of the current certificate types
- ✓ Questions, tests are encoded and secured
- ✓ Allow online registration and payment
- ✓ Supervise and monitor the process of examination and marking
- ✓ Diary of taking test, authorize and operation
- Exam interface suitable for all devices Desktop, Mobile, Tablet
- ✓ Connect to another system according to Webservice standard
- ✓ No restrictions on the number of users and allow 5,000 examinees to take part in the exam and test simultaneously.

### MAIN MODULES



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### BENEFITS OF SCHOOL, TEACHER AND STUDENTS



**STUDENTS**

- ✓ Students can register for the exam anytime, anywhere with only a computer, laptop or smartphone
- ✓ Create psychology for students as same as real exam by limiting the time
- ✓ Have chance to review answers and change answers if they have not been submitted yet
- ✓ See the test scores for the multiple choice test



**TEACHERS**

- ✓ Compile the exam questions simply and quickly
- ✓ Update regularly with new questions and exam questions
- ✓ Do not have to mark multiple choice tests



**SCHOOLS**

- ✓ Manage and organize exams easily
- ✓ Mark and supervise exam transparently, anti-fraud
- ✓ Save time and cost of printing documents
- ✓ Evaluate candidates' foreign language competencies easily
- ✓ An interactive channel between the school, teachers and candidates
- ✓ Manage and collect fees (if any) easily

### OVERVIEW

Classbook is a service that allows online electronic purchasing with the foundation of hundreds of popular textbooks and thousands of supplementary reference books from grade 1 to grade 12 by Vietnam Education Publishing House that have been digitalized, edited and packaged into electronic format and added multimedia contents, multiple-choice exercises that reinforce interactive features. In addition, the educational content store at classbook.vn has also been built to be the online learning resource for the largest general education in Vietnam. Classbook is exploited by installing applications on popular operating systems: Windows, Android, iOS.

### OUTSTANDING AWARDS

- 🏆 Nhan tai Đạt Viet Award in 2012
- 🏆 Sao Khue Award in 2013
- 🏆 Vifotec Award in 2014
- 🏆 Sao Khue Award in 2015

Tinhvan Education (TVE)

☎ (024) 3512 4007

✉ tve@tinhvan.com

🌐 www.tinhvan.com / www.classbook.vn



### KEY FEATURES

#### AS FOR TEACHERS

Classbook is installed directly on the teachers' devices, making it easier and faster to prepare for class lessons.

Many available diverse interactive contents (Video, Audio, Quiz, ...) having standard feature, integrated right in digital textbooks



#### AS FOR STUDENTS

Have access to the latest technologies in the process of learning, the most standard source of materials, making better learning results.

Ensuring the concentration of the students and the contents delivered in the classroom as well as at home are more consistent and united



### DIVERSE TEACHING MATERIALS

A wide variety of teaching materials, simple and easy to help make the lesson more lively and effectively

Integrating all textbooks from grade 1 to grade 12 by Vietnam Education Publishing House .

Violet lectures store, bookstore integrated helping lectures more lively

Continuously updated.

The price of digital textbook is only 70% compared to the price of printed textbook.

### SMART INTERACTION

Learn English with Classbook: Touch any conversation in the English book to listen to that conversation in a standard English voice and look up in the dictionary directly on the book.

Multimedia contents for subjects, data store, documentary films that support learning with such subjects as literary, historical and geographical, etc. together with the system of multiple choice exercises in lessons bringing a full sense of knowledge to users.

Allow interaction by writing, drawing, marking, adding notes to each book page

Additional applications: Virtual experiments biological emulation, Mathematical, Physical, Chemistry, Biology.

### EASY CONNECTION

Ready to integrate in smart interactive classroom models

### PROVIDED CONTENTS

#### DIGITAL TEXTBOOKS

Full set of general textbooks from grade 1 to grade 12 by Vietnam Education Publishing House. Integrating more multimedia contents (Audio, image, video, extended text) on exclusive digital publishing platform.

#### CONTENT STORE classbook.vn

Thousands of reference, advanced, auxiliary books and learning applications for the teaching and learning process (Virtual experiments biological emulation, Mathematical, Physical, Chemistry, Biology)

### OVERVIEW

Edito electronic publishing platform provides a general solution for units wishing to deploy e-book business, with a comprehensive business cycle from content editing and packaging, maintaining an online book shop/store to exploiting these content with reading applications operating on computers, tablets, smartphones using Windows, iOS or Android operating systems.

### KEY FEATURES

#### DIGITAL BOOK FORMAT

- ✔ Support PDF or ePub e-book formats

#### EDITING AND PACKAGING

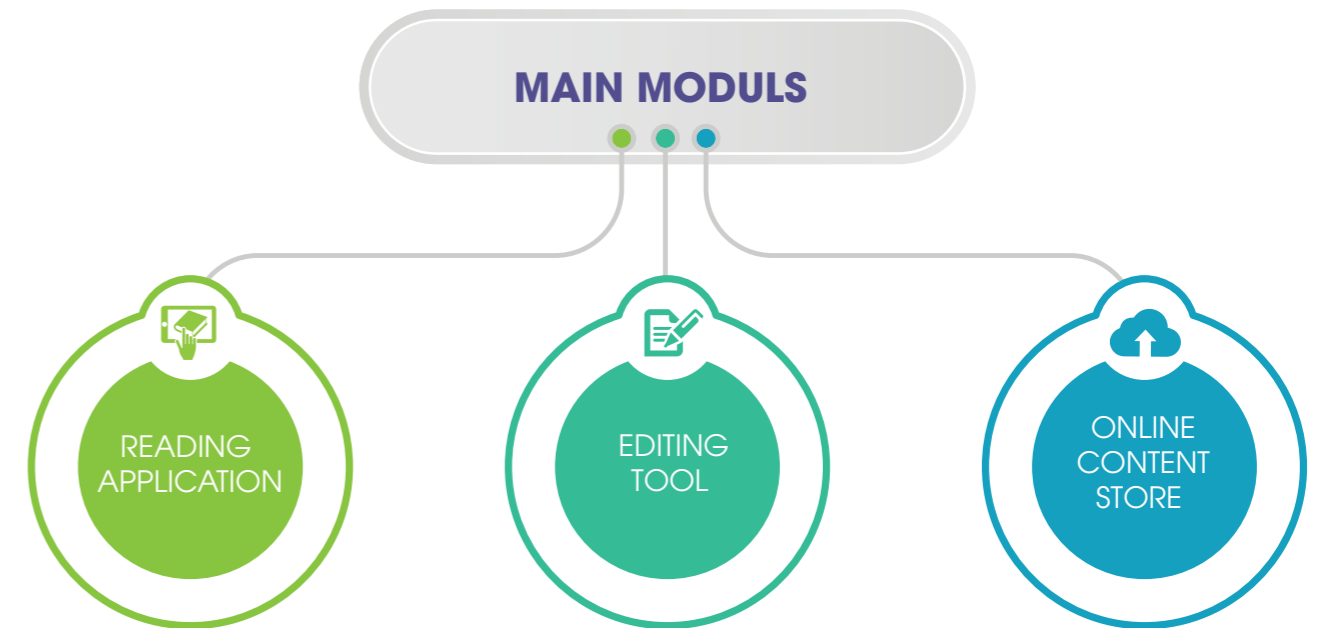
- ✔ Editing and packaging tool installed on the operating system
- ✔ Allows mounting multimedia content with interactive areas on the book page
- ✔ Integrate mechanism for automatic pronunciation of English content on book pages
- ✔ Edit the content in the form of multiple choice exercises on the book page
- ✔ Packaging and coding of e-books to ensure that it can only be exploited on valid hardware devices.

#### EXPLOITATION

- ✔ Running on Windows, Android and iOS operating systems
- ✔ Can be exploited on computers, tablets or smartphones.
- ✔ Support features of a common reading and specific functions for e-book format.
- ✔ Integrate with online book shop/store

#### ONLINE BOOK SHOP/STORE

- ✔ Web interface and integration with reading applications
- ✔ Support a bookstore model of many content providers
- ✔ System administration module.
- ✔ Integrated online payment portal



### ATTACHED SERVICES



**Professional consulting and solution customization to develop e-book business services under order projects.**

**Content development (Edit and package e-books)**

**Maintain and upgrade products**

**Provide products in the form of leasing SaaS services including software, servers, storage, transmission and system operation**

### OUTSTANDING AWARDS

Nhan tai Dat Viet Award (Vietnamese talent Award)

Sao Khue Award in 2013

Vifotec Award in 2013



### OVERVIEW

SmartSchool is a smart educational ecosystem, education in the age of technology 4.0. There, students play the role of a center and can use tools and utilities with high applicability to achieve their learning goals, SmartSchool synthesizes learning materials: lectures, videos, rich and diverse interactive data; this is an advanced e-education platform to serve the educational program from elementary, middle and high schools.

Smartschool is designed with open feature, ready to connect many learning materials systems into a complete smart education ecosystem.

Smartschool aims to contribute to the comprehensive fundamental innovation of education and development of high quality human resources to realize the cause of national industrialization and

### KEY FEATURES

- Provide questions, surveys and activities for students using smart devices or feedback devices
- Improve the skills of cooperation and self-management with FREE SmartSchool accounts for students
- Recognize students' outstanding achievements by sending electronic badges to students and their parents
- Discover millions of lectures, resources and interactive activities of lecturers worldwide via SmartSchool Store
- Present the lectures using a pen or touching on the interactive screen of all brands.
- Save time with prepared activities. Choose among activities of Matching, Sequencing and more others

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### BENEFITS WHEN USING

- ✔ **SmartSchool approaches toward the direction helps teachers and students develop professional skills, teaching and learning skills in a new method.**
- ✔ **Teachers and students are updated by the latest and multi-dimensional lectures and lessons; apply information technology to make teaching and learning easily and effectively.**
- ✔ **Students are allowed to take tests created or trained by teachers with exam questions selected according to the general exam structure of the Ministry of Education and Training.**
- ✔ **Teaching and learning at anytime and anywhere on any device**
- ✔ **Save time and money in finding and printing teaching and learning materials**



## ASSET MANAGEMENT SOLUTIONS

### OVERVIEW

Qualita - Asset Management System is a complete solution for asset management profession.

The system consists of many modules corresponding to the main stages of an asset management agency and is designed in accordance with government regulations on decentralization of asset management, management mechanism, and property depreciation calculation.

Qualita is a perfect choice for organizations, agencies and businesses in asset management.

### KEY FEATURES

#### HIGH COMPATIBILITY, EASY EXPANSION

- Be able to operate on any computer network of any size and architecture
- Compatible with Microsoft operating systems from Windows 2003 and above
- Designed, built and operated according to the most advanced technology standards to ensure the ability to upgrade, change, add, connect to new components in a convenient and easy way.
- Flexibly manage and decentralize user accounts by function ...
- Web-based interface is flexible according to each function of the system.
- Multilingual support for Unicode with data and working interface.

#### REPORTS – STATISTICS

- Diverse and adequate report templates for all professions
- Dynamic report generation mechanism, making it easy

#### INTEGRATE CAPACITY

- Flexible integration allows to integrate with other systems simply and conveniently.
- Integrating and expanding unlimited service utilities: LDAP, AD, GIS, BARCODE...

#### DATA EXPLOITATION AND RESEARCH

- Access to exploit at anytime, anywhere via Internet connection.
- Support exploitation with tablet devices, personal computers, ...
- The ability to customize the interface language
- Strict control mechanism of users' accounts and access permissions.
- Dynamic search Interface
- Support simple search, advanced search and accurate full-text search.

#### CAPACITY OF SYSTEM SECURITY

The system provides a separate module that decentralizes to each user in the system, ensuring that users cannot access functions that are not within their jurisdiction.

#### TECHNOLOGICAL PLATFORM

- Use the most currently popular technology platforms: HTML 5, jQuery, ... and many different database platforms: Sql Server or Oracle Server
- Allows multiple accesses by users at a time
- Security mechanism at three levels: Database level, application level, operating system level



### CUSTOMERS



Ministry of Finance



People's Supreme Court



Vietnam Telecoms National (VTN)



Department of Public Asset Management

## API MANAGING SOLUTION FOR BANKING AND INSURANCE SECTOR

### OVERVIEW

#### BENEFITS WHEN SETTING UP BANKING API PORTAL

Ensure availability to connect to the Bank's systems and services

Allows quick, convenient management and registration of partners before making connections in Sandbox or Production environment.

Easy to operate and administer all APIs of the Bank/Insurance Company/Organization, ...

Ensuring efficiency and quickness in "launching" an application (2-3 weeks instead of 2-3 months as currently)

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The Industrial Revolution 4.0 is strongly impacting the financial services industry in many countries around the world and the application of technology to financial services called Fintech is a strong development trend in the banking industry, helping commercial banks improve operational efficiency, increase revenue, reduce costs. At the same time, giving customers many utilities with a better user experience and reasonable costs.

In addition, thanks to the advantage of low cost, wide coverage of digital technology, Fintech needs to open up opportunities to increase access to banking services for customers in rural and remote areas, group of customers that do not have bank accounts making contribution to the generalization of national finance.

In order to deploy and launch a faster application, allowing the bank to increase the number of customers, higher the availability for the "third party" who are the "trusted partner" and already have the supporting of Banking Open API.

The solution is deployed on the IBM API Connect platform and allowing Banks, Insurance Companies, etc. to organize and manage APIs of application systems, and manage connectivity to technology partners, Fintech companies quickly and effectively.

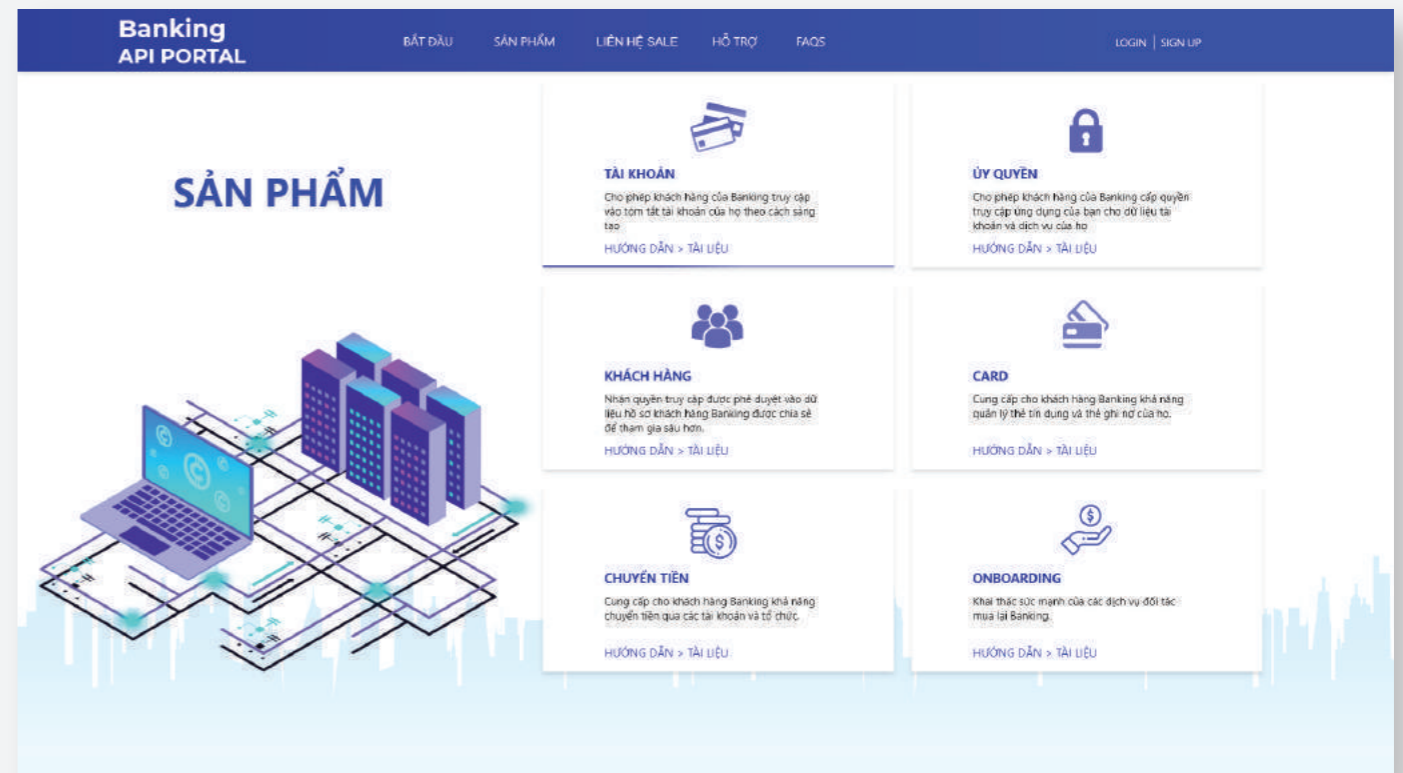
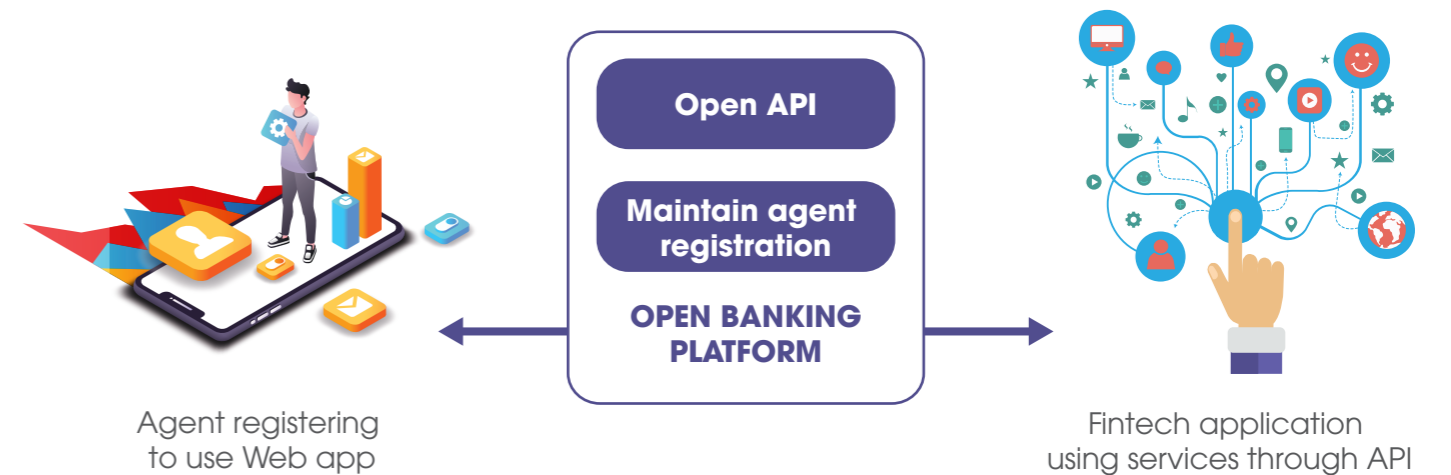
### APPLICATION AREAS



## MODELS AND COMPONENTS OF BANKING API PORTAL

### PARTNERSHIP SYSTEM

Easily expand the network with a self-admit partner system



# IBM ESB

## ENTERPRISE SERVICE BUS

### OVERVIEW

#### SOA INTEGRATED ARCHITECTURE

#### Point-to-point integration

- Individual IP applications must have hard code to integrate and allow them to exchange information with each other
- Point-to-point is an outdated, wasteful and ineffective plan

#### Service oriented Architecture

- SOA was born 15 years ago as an integrated architecture based on service concept

The main goal of SOA is to

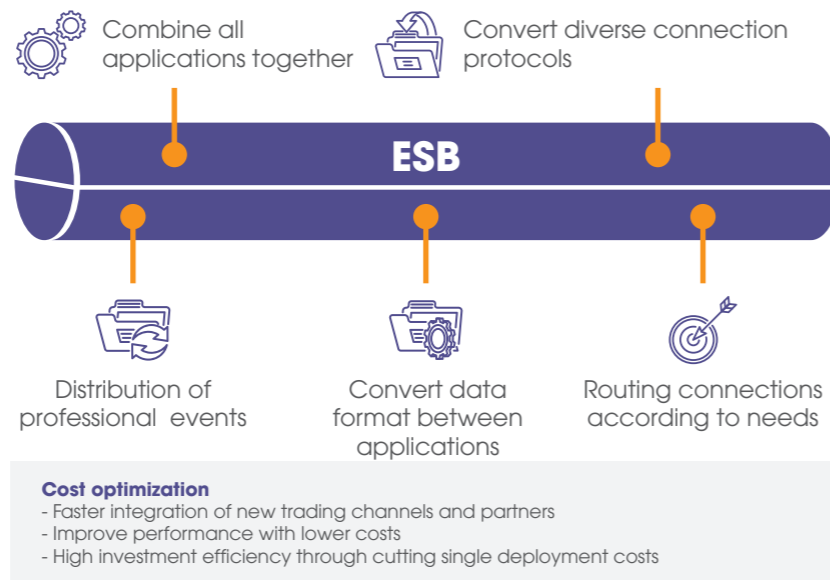
- establish an architectural approach to ensure that the integrated IT model is flexible according to long-term development needs.

**ESB provides connectivity infrastructure for SOA architecture to help banks organise and manage and service develop quickly and efficiently**

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### KEY FEATURES



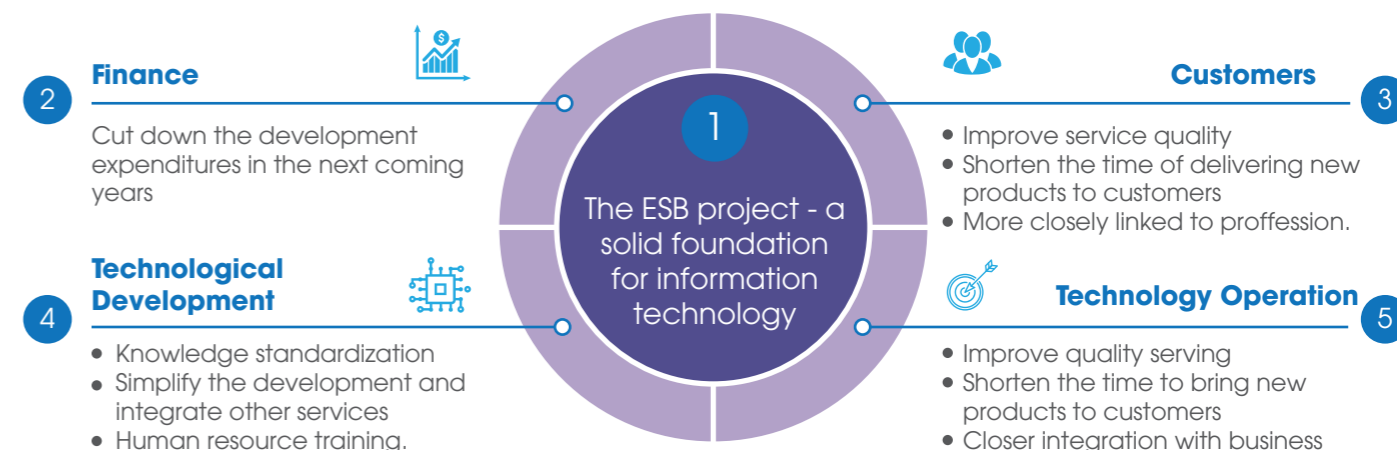
### APPLICATION

- Develop Enterprise Integration Bus architecture to allow standardization and integration of core bankends applications such as Corebanking, Card systems, DW ... with front-end channels services such as Internet Banking, Mobile Banking, Contact Center ... to provide professional services to customers such as eBanking, Payment, LOS ...
- Develop API Management solution, help build business model based on API, Microservice
- Centralized management, API security, integration with external partners
- Orienting towards standardization and integration of professional processes

### REASON FOR IMPLEMENTATION OF ESB

- Cut down on future deployment costs due to the ability to re-use the service (for example, deploy for more ERP, new payment channel ...) Application standardization from a development perspective to operation, minimizing operational risk thereby improving customer service quality
- Limiting dependence on corebanking, licensing cost and core customization partner costs
- Ensure flexible IT architecture to easily meet the requirements of professional development in the coming years
- Enhance competitive position based on technology capacity

### SUMMARY OF THE VALUE OF ESB PROJECT



**Thêm dữ liệu vào Hệ thống**

Sử dụng các giải pháp này để nhanh chóng biến dữ liệu của bạn thành các trang tổng quan và hệ thống giám sát được tạo sẵn.

Đã có sẵn dữ liệu trong Elasticsearch? [Thiết lập các mẫu chỉ mục](#)

- APM**: APM tự động thu thập các chỉ số và lỗi hiệu suất chuyên sâu từ bên trong các ứng dụng của bạn. [Thêm APM](#)
- Logging**: Nhập nhật ký từ các nguồn dữ liệu phổ biến và dễ dàng hình dung trong các trang tổng quan được định cấu hình trước. [Thêm dữ liệu log](#)
- Số Liệu**: Thu thập số liệu từ hệ điều hành và dịch vụ chạy trên máy chủ của bạn. [Thêm dữ liệu chỉ số](#)
- Phân tích bảo mật**: Tập trung các sự kiện bảo mật để điều tra tương tác trong việc sẵn sàng trực quan hóa. [Thêm sự kiện bảo mật](#)

**Hình dung và khám phá dữ liệu**

- Biểu đồ trực quan**: Tạo hình ảnh và lưu trữ dữ liệu tổng hợp trong chỉ số Elasticsearch của bạn.
- Biểu đồ tổng quan**: Hiển thị và chia sẻ bộ sưu tập hình ảnh và tìm kiếm được lưu.

**Quản lý và quản lý các ngăn xếp đàn hồi**

- Các đối tượng đã lưu**: Nhập, xuất và quản lý các tìm kiếm đã lưu, kiểu trực quan và biểu đồ.
- Các mẫu chỉ mục**: Quản lý các mô hình chỉ mục trợ giúp truy xuất dữ liệu từ Elasticsearch.

**ỦY BAN CHỨNG KHOÁN NHÀ NƯỚC**

Trang chủ / Công bố thông tin (IDS) / Danh sách Báo cáo tài chính

Nhóm báo cáo: Báo cáo tài chính

Tên Báo Cáo: Báo cáo tài chính - Công ty Đại chúng - Bán niên

Lấy dữ liệu

Trích yếu	Tên báo cáo	Trang thái	Người gửi	
Tổng công ty Cổ phần Bảo hiểm Quân đội gửi Báo cáo tài chính 6 tháng cuối năm 2014	Báo cáo tài chính - Công ty đại chúng - Bán niên	3	Tổng CTCP Bảo hiểm Quân đội	Chi tiết
IDV_Công bố thông tin Báo cáo kiểm toán bán niên 2015_Công ty mẹ	Báo cáo tài chính - Công ty đại chúng - Bán niên	3	CTCP Phát triển Hạ Tầng Vĩnh Phúc	Chi tiết
IDV Công bố BC kiểm toán bán niên năm 2015 Hợp nhất	Báo cáo tài chính - Công ty đại chúng - Bán niên	3	CTCP Phát triển Hạ Tầng Vĩnh Phúc	Chi tiết
Báo cáo tài chính soát xét 6 tháng đầu năm 2015	Báo cáo tài chính - Công ty đại chúng - Bán niên	3	CTCP Minh Hữu Liên	Chi tiết
TIX-BCTC trụ sở chính bán niên 2015	Báo cáo tài chính - Công ty đại	3	CTCP SXKD XNK DV và DT Tân	Chi

## OVERVIEW

eBudget is a supporting software solution for level I, II and III estimating units in the estimation of state budget revenues and expenditures; enable superior budgeting units to synthesize, plan, allocate, manage budget effectively and transparently. Budget management software fully satisfies the new budget law regime in accordance with Circular 342/2016/TT-BTC

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## KEY FEATURES

### Manage and customize revenue and expenditure estimates, state budget allocations on demand (E-form)

- Define and adjust the list of report forms
- Flexibility in adding, adjusting targets and formulas on report forms (draft form)
- Automatically route, submit form for approval according to a predefined process

### Supporting units to make state budget revenue and expenditure estimates easily and accurately; report on the implementation of the estimate; settlement of state budget revenues and expenditures; support level I estimating units to synthesize, allocate and adjust estimates

- Optional data import method; directly import on the electronic form or import data by attaching standard format file
- Provides warning in case of incomplete, inaccurate data entry, without professional logic guarantee.
- Automatically calculate the criteria according to the predefined formula

### Automate report approval processes

- Setup, apply professional process automation for one or more report forms
- Customize professional process changes easily and intuitively
- Save tracks, supervise the entire process

## Data security

- Ability to decentralize users strictly according to the scope of accessed data, the users' role of responsibility, ensuring users can not access the functions, the data that are not under their authority
- Integrating digital signatures in sending and approving reports, ensuring data integrity, high data security.
- Safety data

## APPLICATION AREAS

Plan and finance in state agencies, political organizations, public non-business units and other organizations related to the state budget



## MAIN MODULES

- Form management (E-form)
- Send reports for units
- Receiving and processing reports
- Look up for reports
- Warning reminders
- Synthesize reports as required
- System Administration

## CLIENT



Ministry of Culture,  
Sports and Tourism

## KEY FEATURES

### PROCESSING BIG DATA AMOUNT FROM DATAWAREHOUSE

- Flexible risk assessment, dealing with big data from Datawarehouse, allowing total risk calculations (quantitative and qualitative)
- Make an auditing plan according to the audited unit at the same time with the professional process, service

### DISPLAY

Applying Responsive Web Design (RWD) design technology with suitable display capabilities on different screen sizes such as: devices on mobile devices (mobile), tablets, laptops (laptop), desktop computer (desktop).

### SETTING, AUTOMATICIZATION OF INTERNAL AUDIT PROCESS

- Assist the Technician to develop a risk-based audit program, record work papers, perform audits professionally, fully with evidence and relate to audit recommendations and increase auditing productivity.
- Support to carry out each audit on the high-risk, high-efficiency issues, benefit the value-added recommendations for the audited unit The auditing report is brief, concise and complete.
- Classify Auditing recommendations should be followed according to risk levels.
- Remind automatically according to preset time parameters (week, month, quarter, year)

### CONTINUOUSLY EVALUATING, MONITORING AUDIT QUALITY

- Record and synthesize surveys of satisfaction levels of audited units.
- Recognizing the correlation between audit quality and training activities and R&D activities
- Record evaluation results from outside

## INTERNAL AUDITING SOLUTION

### OVERVIEW

Kitano is the solution to fully support the Internal Audit function, from the time of making the Annual Plan until completing the audit, and at the same time supporting the control and evaluation of the audit quality

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### INTERNAL AUDIT HANDBOOK UNDER INTERNATIONAL STANDARD

- Provide instructions, rules and regulations corresponding to each internal audit process
- Provide Q&A support for Auditors in the process of using the software

### DATA SECURITY

Sharing data and auditing tools with other departments and within the Audit Division at the same time ensuring decentralization according to security principles.

### APPLICATION AREAS










#### SUPPORTS THE INTERNAL AUDIT IN THE FIELD OF FINANCIAL BANKING



#### SUPPORT FOR INTERNAL AUDIT FOR BUSINESS

### MAIN MODULE

-  SET UP A YEAR PLAN
-  CONDUCT AUDITS
-  MAKE AUDIT REPORT
-  TRACK AFTER AUDIT
-  ASSESS AUDIT QUALITY
-  ADMINISTRATION
-  MANAGE UNEXPECTED REQUIREMENTS FOR THE PRODUCTION OF THE LEADERSHIP BOARD



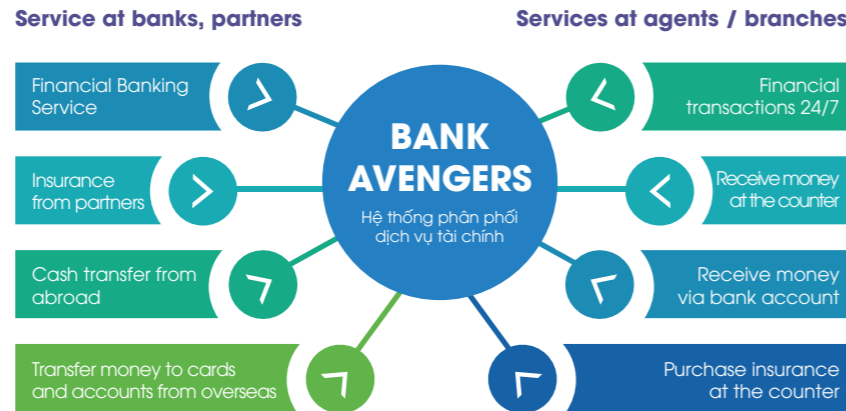
**BANK AVENGERS**

## DISTRIBUTION CHANNELS SOLUTION FOR BANKING FINANCIAL SERVICES

### OVERVIEW

1. Governance focuses on delivering products to the dealer network.
2. Diverse products from partners (with services available from Japanese partners paying remittance )
3. Easily add banking products and financial products of affiliate partners.
4. Easily expand the network with an automatic partner enrollment system.
5. Covering maximum of transaction points, even on social networking applications

### SERVICE MODEL

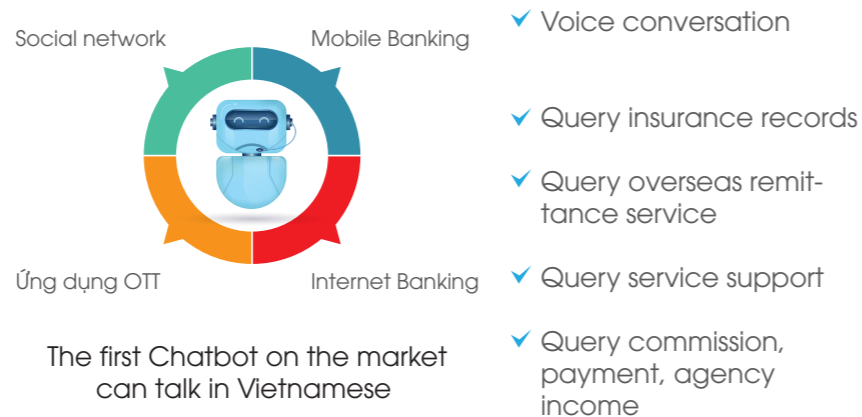


### MANAGEMENT FOCUSING ON PRODUCTS



### MANAGEMENT FOCUSING ON PRODUCTS

Cover up to all transaction points, even on social networking applications.



### KEY FEATURES

#### SERVICE PRODUCTS

- Remittance Payment
- Payment history
- Payment request
- Insurance Products
- Track records
- Commission for service

#### SERVICE MONITOR

- Manage distribution channels
- Manage partners
- Money transfer fee NAPAS payment
- Set up commission for branches
- Set up commission for partners
- Set up commission for agents
- Expenditures payment
- Commission payment
- Control transactions

#### PROFESSIONAL SUPPORT

- Knowledge test - News - Knowledge
- Professional Library
- Remote support

**HỆ THỐNG GHI LOG GIAO DỊCH (Transaction Log)**

### PARTNERS



Gắn bó dài lâu.



### PROCEDURE

- Identify KYC customers
- Pay for services for distribution channels
- Commission for distribution channels
- Extract interbank transaction fee

### REGULATION

- Calculate commission from partners
- Calculate commission for distribution channels
- Calculate interbank transaction fee

### PARTNERSHIP INTEGRATION SYSTEM

- Cash Transfer Partners
- - CASA to CASA transfer
- - Transfer via Card
- NAPAS interbank transfer

### PARTNERSHIP INTEGRATION SYSTEM

- Account queries
- CASA to CASA transfer
- Transfer via Card
- NAPAS interbank transfer
- Access management

### DISTRIBUTION ENROLLMENT AUTOMATIC SYSTEM

- Process of distribution channel registration
- Guide and support for integrated systems
- Process of account issue

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## SOFTWARE DEVELOPMENT OUTSOURCING

### Tinhvan OUTSOURCING




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 Tinhvan Outsourcing Jsc., (TVO)



## MOLIBE APPLICATIONS DEVELOPMENT



- ✓ Experience developing more than 100 different mobile applications in various industries
- ✓ Professional mobile application development process, business analysis to warranty support for customers
- ✓ Know-well working culture of multinational customers
- ✓ Commitment to bring products with the best user experience and the highest quality



## DEVELOPMENT OF SYSTEM CUSTOMIZATION

TVO has a lot of experience in analyzing and building big systems using big data, cloud, AI to solve customer's requirement.

We prioritize the use of new technologies in project development, ensuring long-term and sustainable development of the system.



## DEVELOPMENT OF ENTERPRISE SOLUTIONS

TVO is now a reliable partner of big corporations such as Unilever, Aeon and Hyundai Thanh Cong ...

We are able to build great solutions focusing on complicated structural organization systems serving millions of users are employees or customer's employees.

Security and information security of enterprise is a top priority when building these solutions.



## CUSTOMERS

SONY

Panasonic

AEON

NTT DATA

Unilever Food Solutions

TOSHIBA

HYUNDAI THANH CONG

NEC

NE

FUJITSU

HEINEKEN

ORACLE

# MOBILE APPLICATIONS

## DEVELOPMENT OF MOBILE APPLICATION AND SOLUTIONS

Mobile Applications and Solutions Development Services



### DEVELOPMENT OF MOBILE APPLICATION AND SOLUTIONS

Developing multi-platform applications, always propose excellent solutions to meet the diverse requirements of customers, help increase productivity, highest business results and proves value of technology investments.

### OPTIMIZED MOBILE DISPLAY

Over time, users spend more and more time using tablets and mobile devices, but many websites are still not optimizing web design for many different screen sizes. Optimizing mobile devices is to redesign website structure, improve page loading speed and more to reduce losing rate of potential customers.

### SYSTEM INTEGRATION

Deploying a system that directly supports customers' business models in the meantime meets requirements of both technology optimization and commercial transfer.

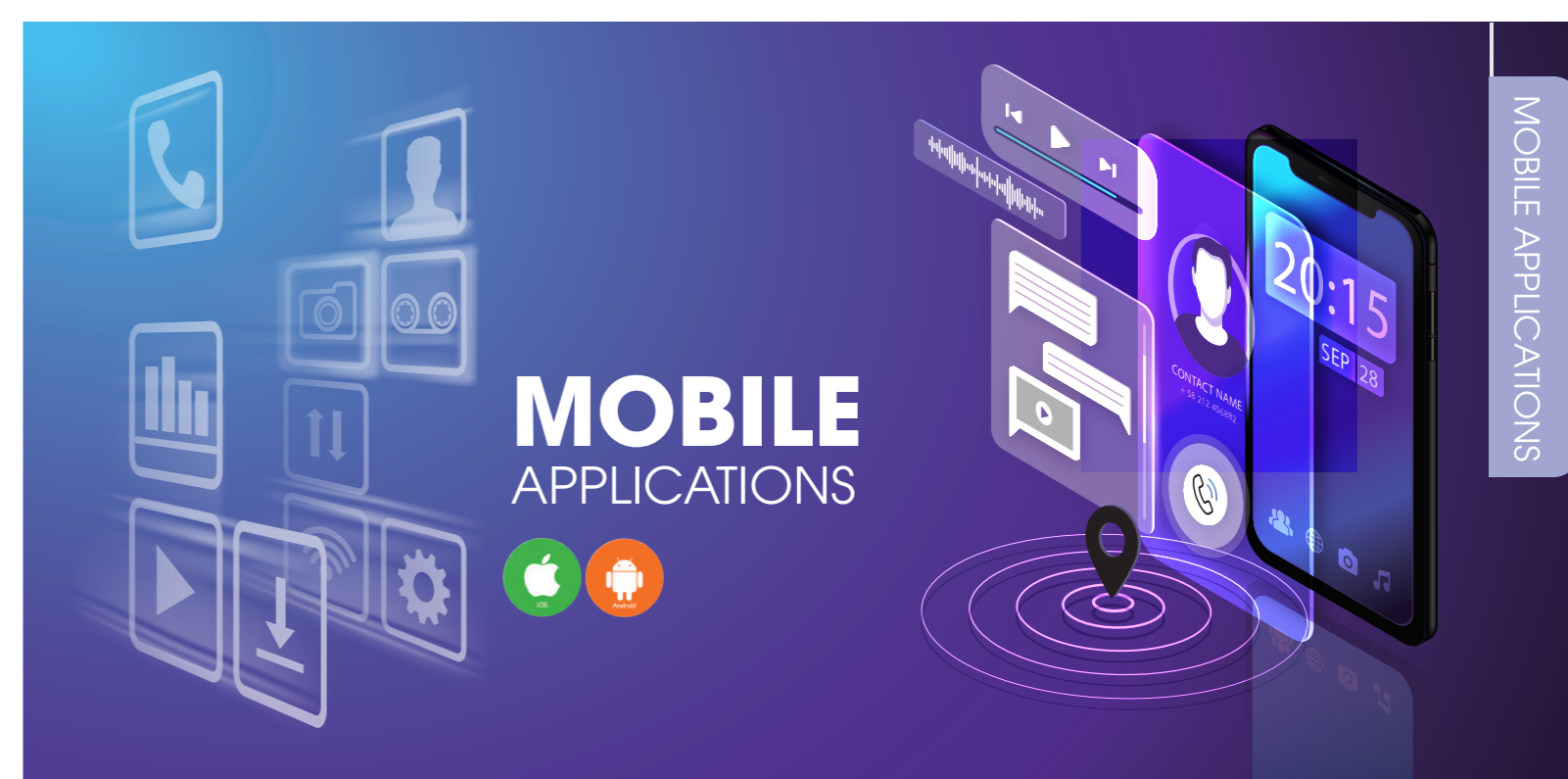


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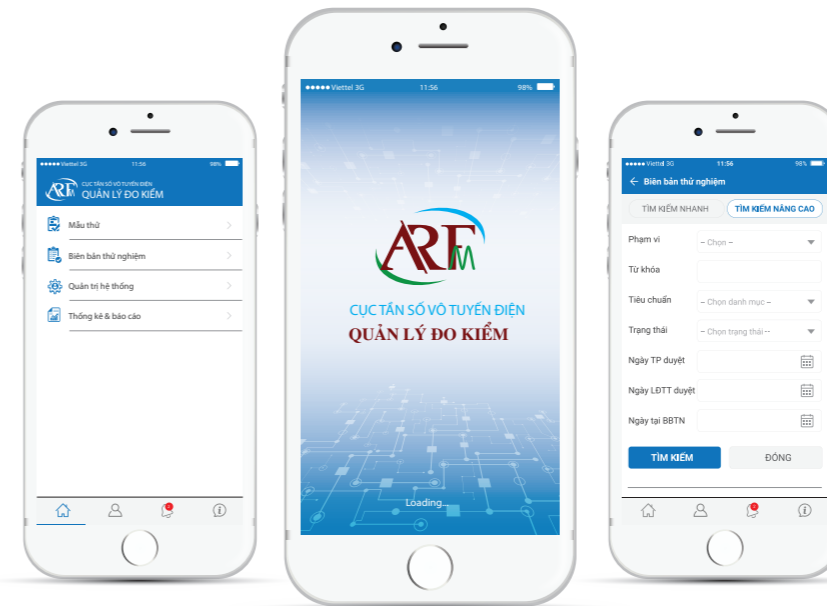
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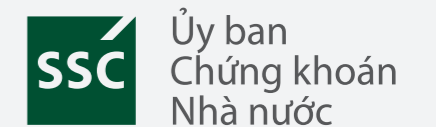
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MOBILE APPLICATIONS



## CLIENTS



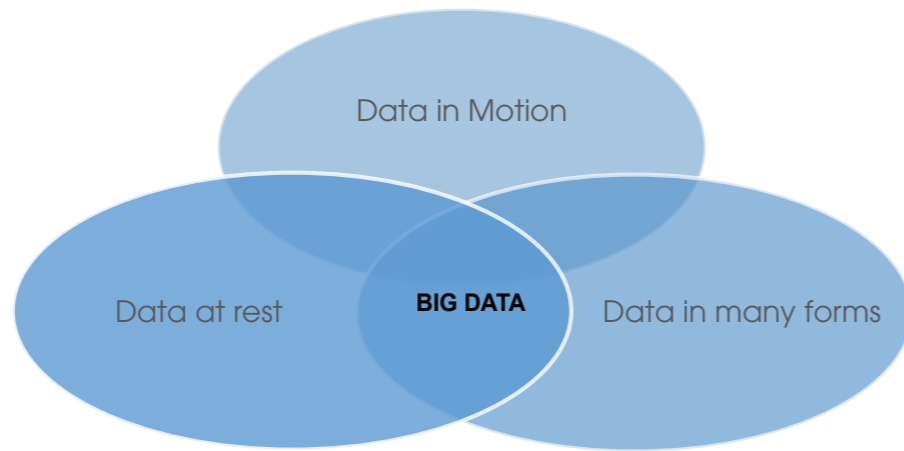


# DATA SERVICES

## OVERVIEW

Data researching service provided by Tinhvan Lab is the process of analyzing big data to manage, operate, analyze and make future observations or forecasts contributing to improvement of marketing, operation activities.

## BIG DATA



## MAIN SERVICES

- Data entry
- Data mining
- Data Cleansing
- Data Conversion
- Data Processing
- Data Management



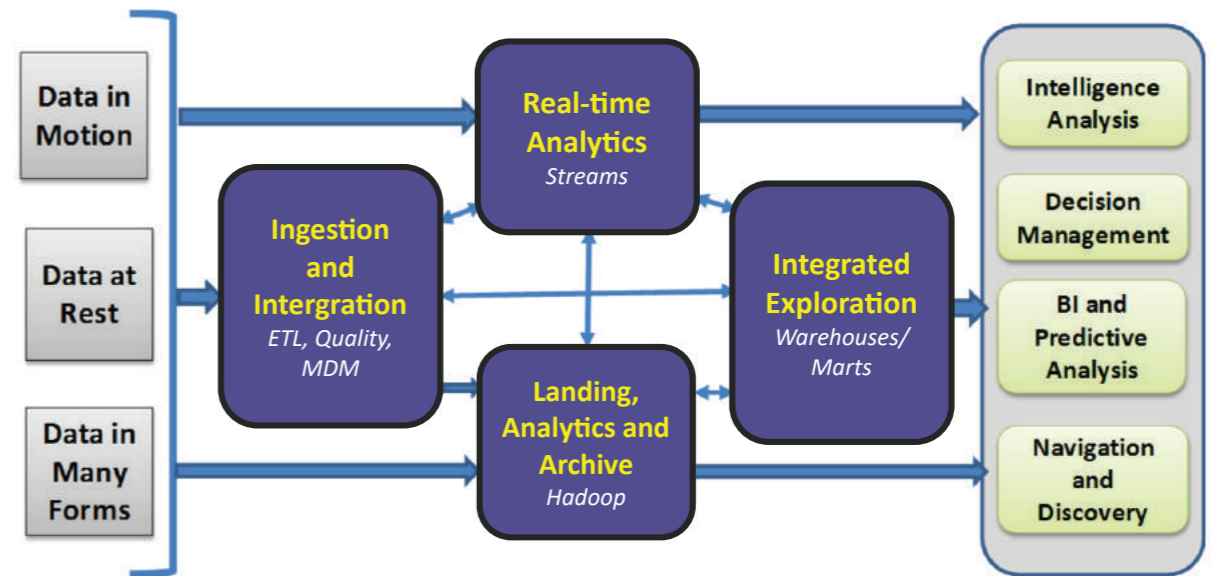
## SERVICE CHARACTERISTICS

- Secure and optimal data security
- In comply with data quality management norms



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## BIG DATA SYSTEM AND DATA FLOW



## TECHNOLOGY PLATFORM



## EXPLOITATION GOALS

- Organization
- Administration
- Analysis
- Forecast



## COLUMN LEVEL ENCRYPTION SOLUTION SUPPORTING ENCRYPTED INDEX SEARCH



### EFFICIENCY

- Supports index search encryption
- Fast encoding / decoding performance



### PRODUCTIVITY

- Less impact on performance for encrypted applications
- Simultaneous processing capacity



### NO DOWNTIME

- Structure suffer errors without

## FUNCTIONS:

### 1. Column level encryption:

CubeOne encodes columns that contain sensitive data such as ID cards, credit card numbers, bank account numbers etc. Customers can choose columns that will be encrypted instead of encrypting the database table. Column-level encryption allows users to optimize system performance and storage capacity

**2. High security level:** Handling all CubeOne encrypted data that supports index search with all data in encryption. Allowing supports all search ranges such as equal, like, between, greater than, less than ... with encrypted data and encrypted index.

### 3. Strict access control against DBA (Database Administrators)

(Database Administrator)

Today, data leaks happen more by insiders than hackers. Among them, DBA is a system user, and can do everything with databases. Our solution meets requirement on authority control for DBA. Therefore, access control for encrypted data is one of the important functions of database encryption products, CubeOne has a strict access control system, so even DBA cannot access encrypted database if not allowed.

### 4. High efficiency:

When performing encryption, one of the trade-offs is system performance. With CubeOne this system will be optimized and reduce performance at a very low level (up to 5%) - this ensures both data encryption and system performance. This function allows CubeOne to handle large databases up to millions of records.

## OVERVIEW

CubeOne is the leading column-level data encryption solution that enables encryption of important, sensitive information fields (bank accounts, ID cards, phone numbers ...) instead of encrypting the entire database table. With CubeOne, database will be absolutely safe even if data loss or leakage occurs.

CubeOne is the ideal solution for large database systems (Oracle, MS SQL, DB2, ...) to ensure high performance and no downtime.

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## PROVIDED SOLUTIONS

CubeOne provides encryption solutions from database layer to application, including:

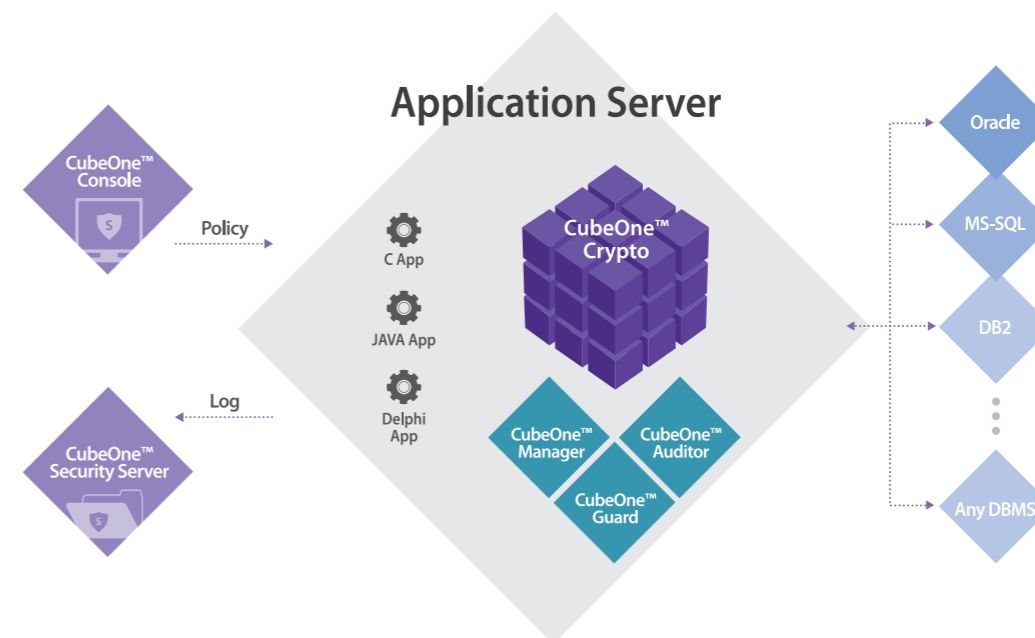
### + CubeOne Plugin:

Encrypted solution from the database layer



### + CubeOne API:

Encryption solution from the application layer



## CLIENTS



# TRILLIUM SOFTWARE®

## LEADING SOLUTION FOR STANDARDIZATION AND CLEANING DATA

### OVERVIEW

Trillium is a worldwide package product of Syncsort (more than 2000 users have been deployed worldwide) is actual standard for high-precision data cleaning tools.

Trillium is a cleaning and coordinated tool to solve problems such as data inconsistency and data duplication.

#### WITH TRILLIUM CUSTOMERS WILL HAVE MANY UTILITIES:

- Improve the accuracy of customers and group segments as well as reduce time consumptions
- Reduce effort and time to check data
- Improve the quality of data mining
- Minimize effort and communication costs of customers

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### TRILLIUM INSTRUCTIONS:

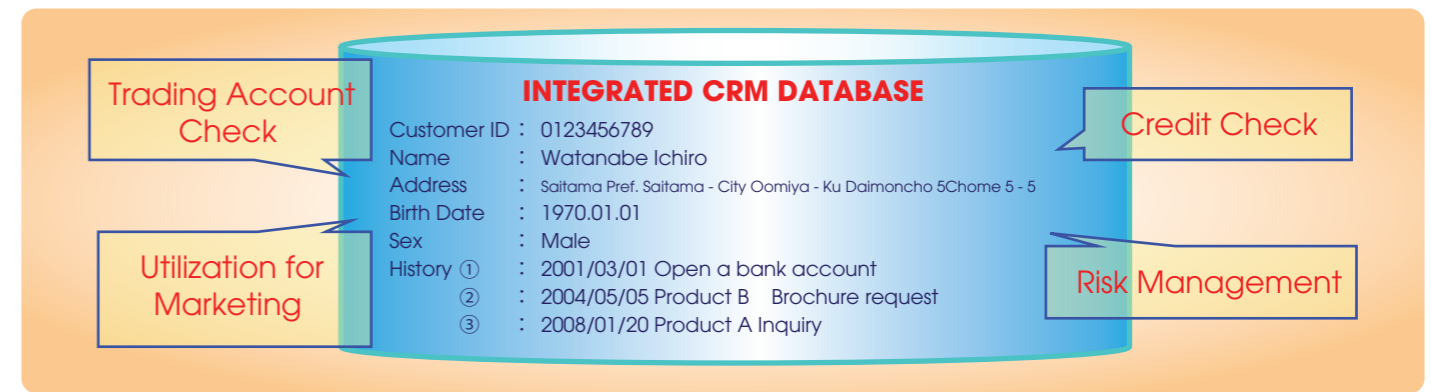
Trillium is used in appropriate with various different purposes:

- Managing, consolidating and combining CIF for CRM use
- Build DWH integrated customers for group of enterprises
- Building CIF marketing by combining internal and other external information
- Customer investigation system to detect anti-social forces



### FUNCTIONS

- Data analysis ... detecting problems in data through profiling
- Data integration.... determine the relationship between data items and files before downloading
- Data cleansing ... standardize names, addresses and other items
- Data matching ... linked records at 3 segments by business, household and individual / linked records by internal business, external business and personal information



### Scattered Databases

Bank account information	Housing loan	Information data
Access : 2001.03.01 Name : Watanabe Ichirou Address : Saitama - City Oomiya - Ku Daimoncho5 - 5 - 5 Birth Date : 1970.01.0 Sex : 1 History : Open an account	Access : 20040505 Name : Watanabe Ichiro Address : Saitama Pref. Oomiya - city Daimoncho 5 Chome5 - 5 Birth Date : 19700111 Sex : Male History : Product B Brochure request	Access : H20.01.20 Name : Watanabe Ichiro Address : Saitama City Daimoncho5 - 5 - 5 Birth Date : S45.01.01 Sex : M History : Product B Brochure request
CIF	MCIF	CRM

### TYPICAL CLIENTS



**SOLUTIONS FOR OTHER FINANCIAL ORGANIZATION WITH THE AIMS OF DETERMINING CUSTOMERS' REPAYMENT CAPABILITY**

**OVERVIEW**

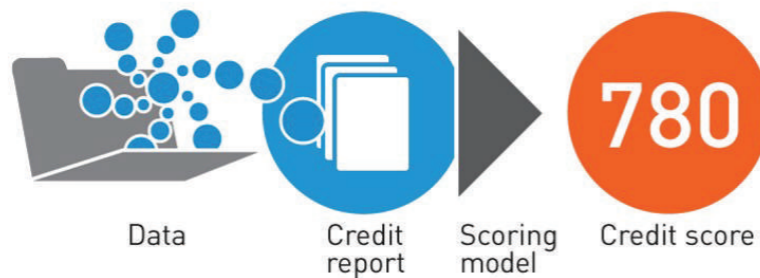
Providing solution for financial organization to determining **customers' repayment capacity** aiming to prevent and minimize credit risks as well as to provide credit products suitable for borrowers....

Credit Scoring plays significant role to the bank's lending decisions and profits

**CREDIT SCORING AT BANKS**

**Manual evaluation method at banks requires**

- ▶ Great workforce
- ▶ High cost
- ▶ Collection process is complicated and time consuming
- ▶ Subjective factors (fraud, errors ...)



**THE BENEFITS GAINED FROM A RELIABLE SCORING SYSTEM INCLUDE:**

- 40%** Reduce the cost of credit analysis, personnel costs, monitoring costs ...
- 30%** Allow faster decision making, minimize possible risks



**SOLUTIONS:**

Providing automation of credit evaluation process with AI and Big Data Technology

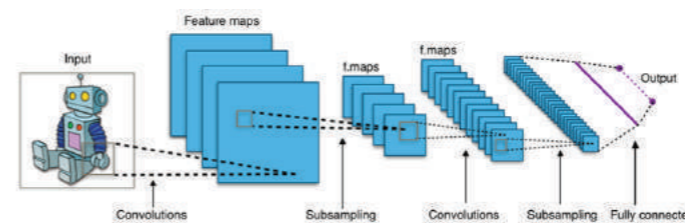


**BIG DATA**  
 Store customer information.  
 Automatically collect customer information.  
 Store collected customer information

**AI**  
 Analyze customer information data  
 Build customer profile  
 Develop credit AI scoring mode

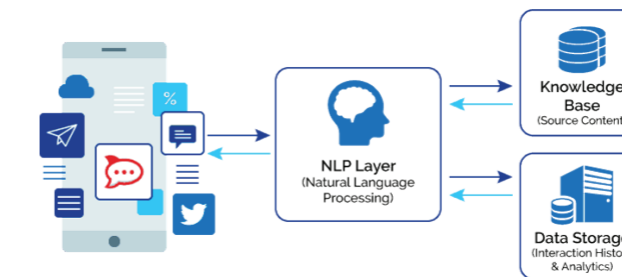
**TECHNOLOGY:**

Automation of credit evaluation process with AI and Big Data Technology  
 Based on data sources to build customer profiles

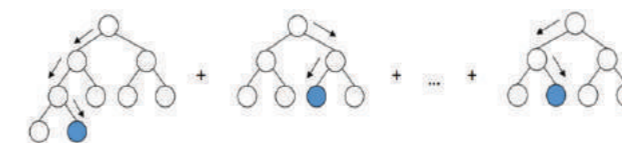


**CONVOLUTIONAL NEURAL NETWORK**

**TECHNOLOGY:**



**NATURAL LANGUAGE PROCESSING**



**GRADIENT BOOSTING TREE**

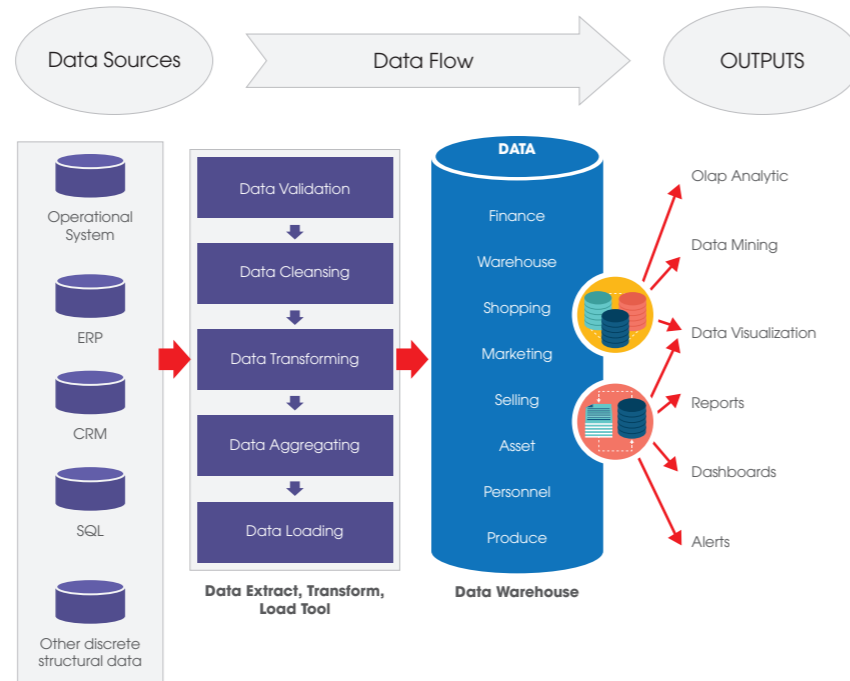
## INTELLIGENT DATA ANALYSIS AND ADMINISTRATION SYSTEM

### OVERVIEW

- It is a huge historical data warehouse of enterprise that is scientifically built for mining and analysis
- Is a data analysis solution and an analytical collection that supports decision making
- A place to define and store administrative KPI libraries
- Is the data collection system of enterprises from many different sources
- As a data performance tool helping managers and leaders detect causes of incidents or breakthrough results.

### BENEFITS:

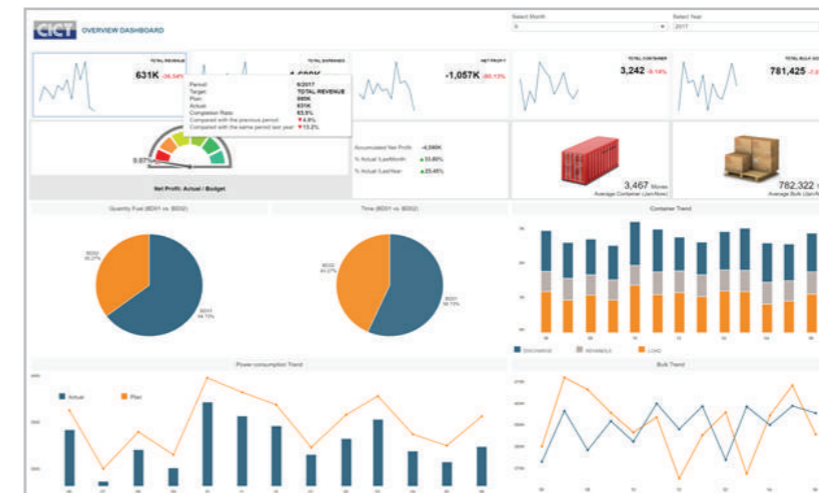
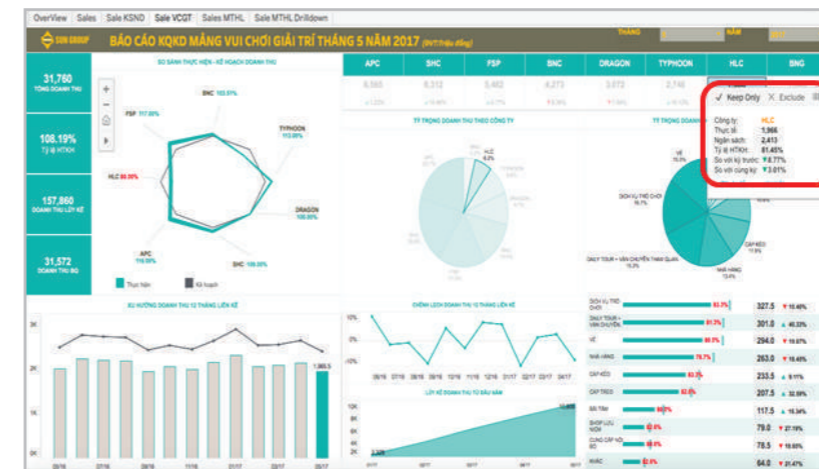
- Deliver in-depth insight
- Widespread visibility
- Improve and faster
- East access to data
- Equal access to the data
- More accurate information
- Faster response times
- Improved decision making
- Identification of problem areas



### FUNCTIONS:

- Provide an overall view
- Intuitive view and depth analysis
- Centralized data mining
- Provide insight and determination
- Data mining
- Analyzing data on the map

- Predict and analyze trends
- Multi-attribute data analysis, multi-dimensional data processing
- Display, export to many different formats
- Automatic alert via email, alert
- Connect Facebook, Twitter and social networks
- Flexible user authorization mechanism
- Calendar control and data synchronization status
- Running on mobile device platforms



### CUSTOMERS





### OVERVIEW

#### Modern FaceID Technology

Intelligent camera recognizes and employees' face and manages employees' presence

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### PRODUCT EFFICIENCY:

Efficiency of FaceID solutions has been tested over experiment

- 99%** Accurate recognition rate
- 99%** Identify faces accurately in live-stream videos
- 98%** Measure the correct flow of people
- 95%** Information about exact age
- 97%** Accurate gender analysis
- 0.3s** Identify response time in data base with millions of faces

### SECURITY SYSTEM:

HiFace solution for banking sector has two main functions:

#### 1 FACIAL REGCONIZATION SYSTEM:

- Intelligent camera recognition system supports attendance / monitoring system
- Camera recognizes Bank's employees, distinguishes strangers and ensures security
- Face detection and log logging on server, then can exploit these logs for many different purposes

- Detect abnormal cases occurring on the area to provide timely processing signals



#### Simple registration

The system reads through the profile image of employee or direct detect by IP Camera



#### Easy and batch identification

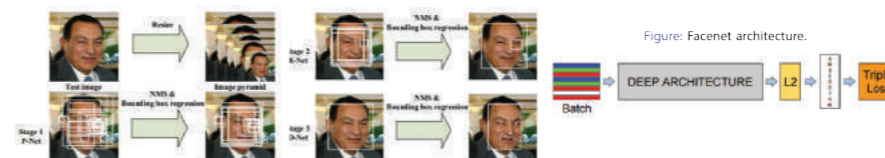
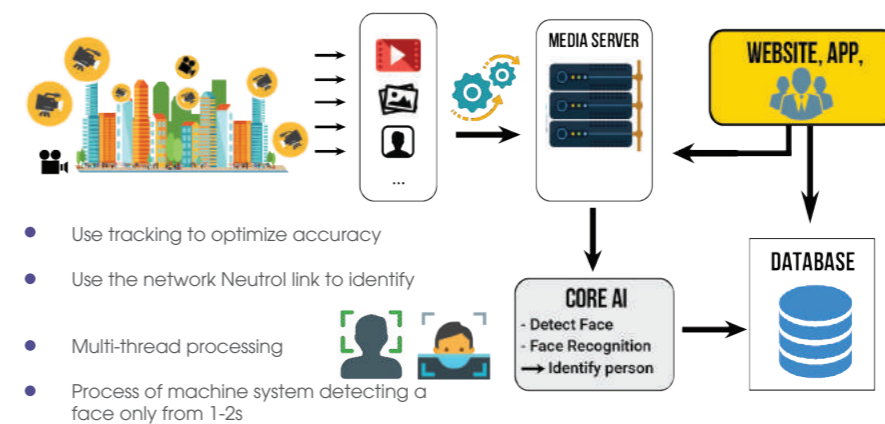
Face recognition system can recognize multiple people at the same time, with multiple cameras, saving a lot of time in queuing for attendance.

### 2 SECURITY SYSTEM

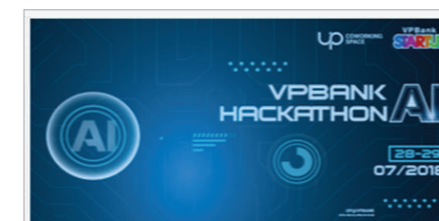
HiFace system is developed by Tinhvan Lab to detect abnormal cases occurring at branches and head offices of the Bank:

- Detecting cases of strangers entering internal area
- Detect faces that are not in the list or database
- Manage and collect information about cadres, control the number of people going in and out
- Ensure security in the Bank's working area

### TECHNOLOGY



### REWARDS



TOP 10 VPBank Hackathon 2018



Á quân Vinas VN Hackathon 2018

### APPLICATIONS

- eKYC
- Fraud prevention
- Biometric
- Access control system
- Marketing
- Customer analysis

## CHATBOT APPLICATION

### OVERVIEW

Chatbot is a solution to support 24/7 basic transactions operations of tellers using biometric identification to increase security for all banking transactions.

- Chatbot platform based on Artificial Intelligence (AI)
- Based and KYC / AML of DTL Technology
- Attending Fintech Hackathon (Vietnam and regional)
- Develop natural language processing and multilingual identification technology

### KEY FEATURES

#### 24/7 SUPPORT WITH HIGH ACCURACY AND FLEXIBILITY

Allow customers to make transactions. 24/7 services registrations without going to branches or transaction offices

Allow customers to flexibly use voice or writing to describe their need and level of recognition with high accuracy

#### BIOMETRIC IDENTIFICATION MECHANISM SUPPORTS INCREASED SECURITY

Allow customers to perform transactions, register services through fingerprint authentication, images, voice..

Authentication through biometric identification increases security and protection of customer transactions without two-factor authentication, especially when customers lose their phones.

Minimize waiting time, send and receive, enter and error when entering OTP code to authenticate transactions

#### IMPROVEMENT OF CUSTOMER EXPERIENCE

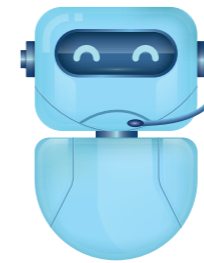
Customers can experience basic banking services themselves without the support of a teller

Allows customers to use flexible Chatbot on user-friendly interfaces such as Web (Chrome iOS IE ...) and apps (iOS and Android)

Diversified language: Vietnamese, English and Chinese serve many customers

### APPLICATIONS

SUPPORT BASIC OPERATIONS OF BANK TELLERS



SUPPORT Q&A SERVICES FOR ENTERPRISES

### OUTSTANDING REWARDS

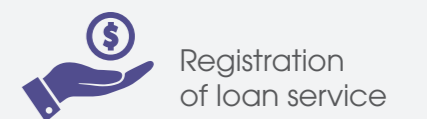
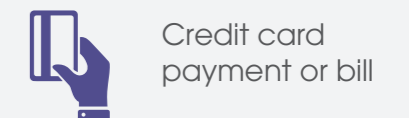
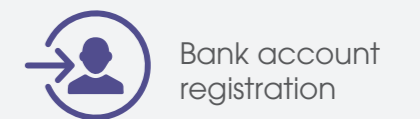


#### TOP 10 VPBank Hackathon 2018



#### RUNNER UP VINASA VN HACKATHON 2018

### MAIN FUNCTIONS:



# Service Robots



## AIRPORT SERVICE ROBOT

### Key Functions::

- ▶ Enhance customer experience at the airport
- ▶ Supporting employees in basic operations such as providing passengers with flight information, flight schedules, answering customer questions, airport directions, check-in procedures
- ▶ Effective, attractive, cost saving



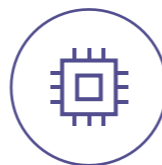
## MAIN CHARACTERISTICS OF TINHVAN ROBOT CLOUD



User Management



Built in Communication Support



Offer remote hardware control and management support



User Data Analysis



Cloud data backup

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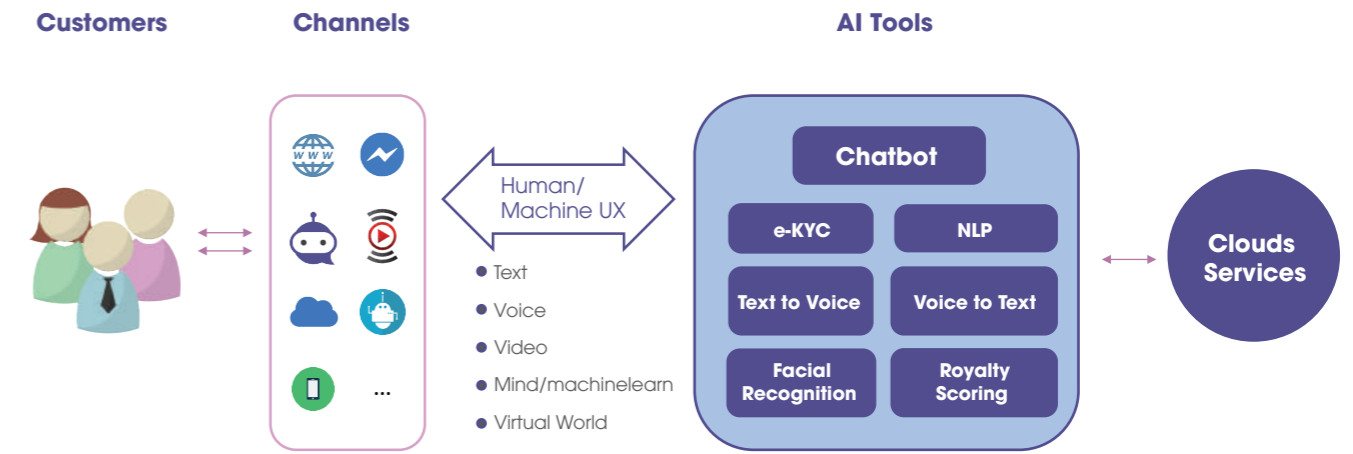
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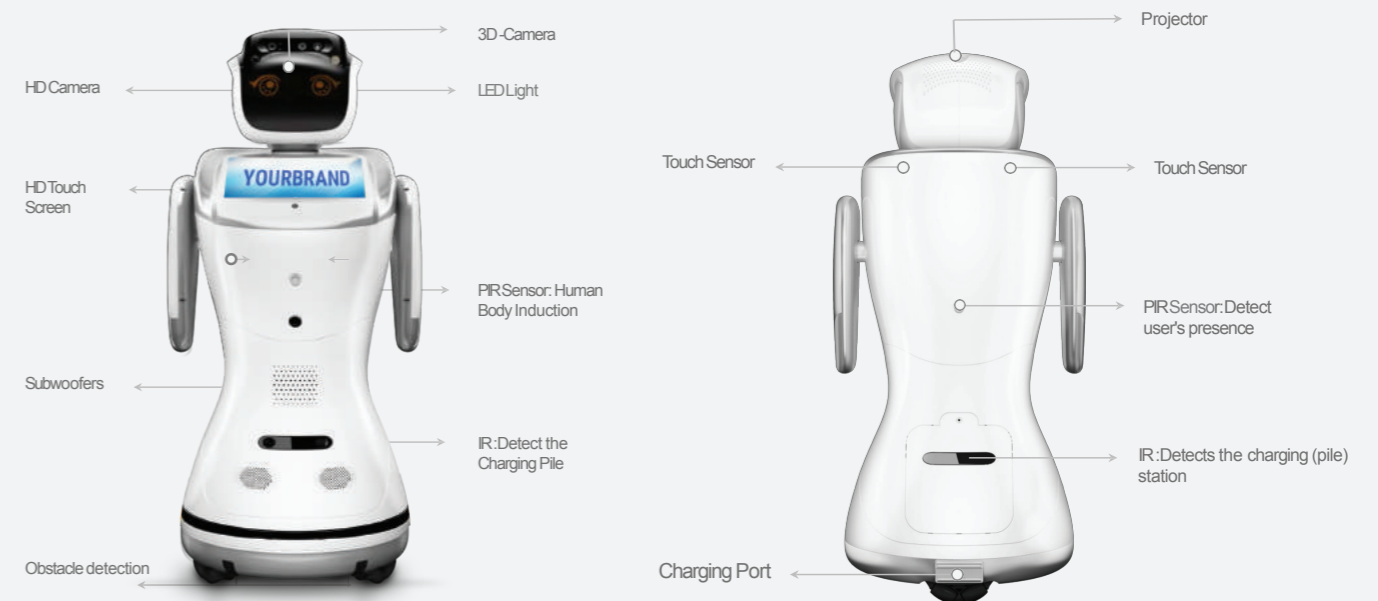
Tinhvan Group

## OMNI-CHANNEL

The service robot researched by Tinhvan Lab is a comprehensive solution for deploying Omni Channel (multi-channel approach) - the future business trend.



## SPECIFICATIONS



## OPEN API



Services

