

# BAC HA SOFTWARE

A BRICK TO BUILD YOUR GOALS

Top Software Company In Vietnam

## **TABLE OF CONTENTS**

O1 ABOUT BHSOFT
Our story, clients and awards

OUR TECHNOLOGIES

Our skills and expertise in programming technologies

ON-DEMAND PROJECTS

Successfully delivered projects by our dedicated development team

O4 GIS, WEB MAP PROJECTS

Dynamic GIS and Web maps we crafted for our clients

O5 BIM & 3D SOFTWARE PROJECTS

Immersive BIM & 3D software solutions developed by our team

**INNOVATIVE AI PROJECTS** 

Cutting-edge development in ML 3D models, AR camera integration & chatbots

O7 CUSTOM MOBILE APP
PROJECTS

06

Versatile web apps we delivered across multiple industries

08 WEB APP PROJECTS

Versatile web apps we delivered across multiple industries

## **ABOUT BHSOFT**

### **ABOUT BHSOFT**

#### Our Story & Awards

Bac Ha Software Co., Ltd. (BHSoft) is a dynamic and fast-moving company in software development and information technology in Vietnam. BHSoft is one of the subsidiaries of BHTech and focuses on software development services. Established in 2014, BHSoft has grown to serve clients globally, earning numerous awards and international recognition in the industry. We proudly provide the optimum solution that always meets customers' needs and applies latest technologies on customer's projects to make them the best applications.











### **ABOUT BHSOFT**

Our Clients



Competences





















































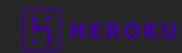












#### 3D Geospatial/GIS/BIM Expertise

BHSoft leads the way in Vietnam's 3D geospatial/GIS/BIM services, utilizing advanced technology to enhance efficiency, sustainability, and profitability in diverse industries. We provide precise, high-resolution mapping services, thoughtfully crafted to save time and resources.

#### Our capabilities include:

2D & 3D digital mapping services

3D models & visualizations

Web map app development

3D floor plan solutions

BIM & GIS integration services

Autodesk Forge

#### **Development Platforms**

Cesium

OpenLayers

Mapbox

Leaflet

OpenStreetMap

Google Maps

GeoServer

QGIS

#### Artificial Intelligence/Machine Learning Expertise

Al and ML technologies are increasingly pivotal in our daily lives, promising significant transformations in how we live and work.

At BHSoft, we're at the forefront of this change, providing top-notch AI/ML development services to seamlessly integrate these innovations into everyday life.

#### Our capabilities include:

Computer vision Face & object recognition

Nature language processing Character detection &

Predictive analytics recognition

Customer analytics Surface matching

3D reconstruction Chatbot development

#### **Development Platforms**

TensorFlow

Keras

OpenCV

Cuda

**NVIDIA** Instant

PyTorch, PyTorch3D

Yolo

Conda

spaCy

#### Web application expertise

As a top software company in Vietnam, BHSoft provides top-notch Web Development services, driven by the latest technologies, and trusted by numerous clients from all over the world.

Our Web solutions for 30+ industries:

- Web application
- Website
- Web portal
- E-commerce

#### **Development Platforms**

<u>Back-End</u>		<u>Database</u>	<u>Front-End</u>
NodeJS	.NET Core	MySQL	React
- NestJS	- ABP/ABP.io	PostgreSQL	- NextJS
- ExpressJS	- ASP.NET	MongoDB	VueJS
- Fastify	- Zero	J	- NuxtJS
- Koa.js		Realm	
Golang	Java	Redis	Angular
Python	PHP	MSSQL	GatsbyJS
- Odoo	- Codelgniter	AWS Aurora	WebGL
- Django	- Laravel	DynamoDB	ThreeJS
- FlaskAPI	- Yii	Dynamobb	
- FastAPI	- Symfony		
- Falcon	- PHPUnit		

#### Mobile application expertise

BHSoft has been recognized as a top mobile development company in Vietnam, earning numerous certificates for our services. We pride ourselves on delivering top-notch mobile development solutions, consistently meeting and exceeding industry standards.

#### Our capabilities include:

Cross-platform compatibility

User authentication

Geolocation services

Payment gateway integration

Camera usage & image processing

Offline access

Data synchronization

#### **Development Platforms**

#### **iOS Native**

- ARkit

- Swift/SwiftUI

- Material design

- Lidar depth

#### **React Native**

- Expo

- RNUILib

- Ant Design

- Material UI

- React Native Paper

- RN BLE

#### **Android Native**

- AR core

- ML kit

- Kotlin

- Material design

#### **Flutter**

**NativeScript** 

#### Cloud & DevOps expertise

With years of expertise in cloud and DevOps, BHSoft delivers top-notch services in these domains.

#### We specialize in:

DevOps tech consulting

End-to-end DevOps implementation consulting

DevOps and CI/CD implementation

Cloud infrastructure management

Cloud-native application development

Scalability and performance optimization

#### **Development Platforms**

<u>Deployment</u> <u>Cloud Service</u>

Jenkins AWS

Bitbucket Pipelines GCP

GitLab CI/CD Azure

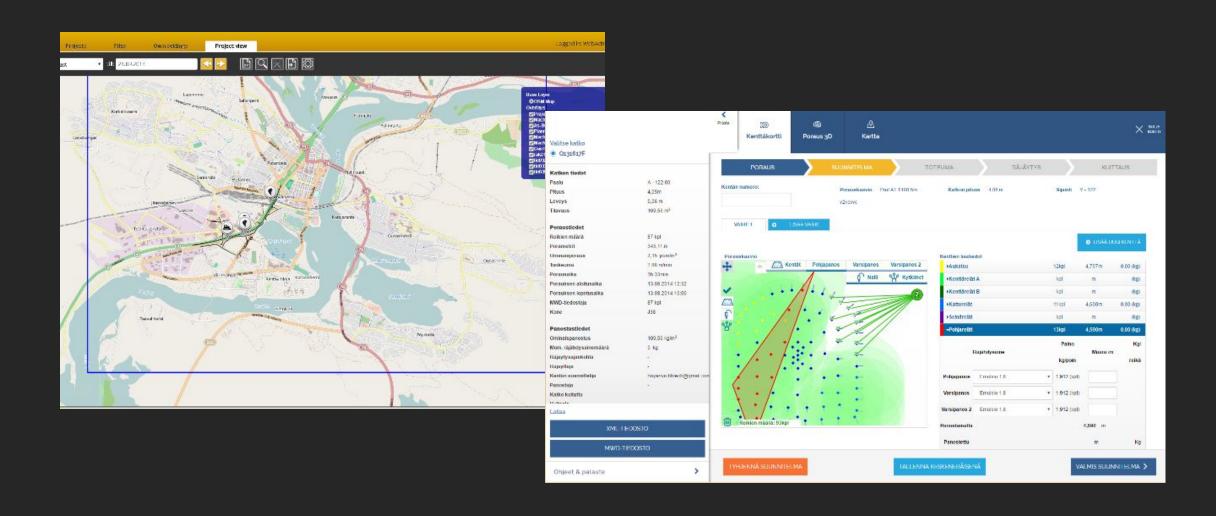
GitHub Actions Digital Ocean

Terraform

Docker

**Kubernetes** 

### **Viasys VDC**



### **Viasys VDC**

o Client: Finland

o Time: 05/2013 – 10/2020

o Communication channels: Skype & Trello

software development team to collaborate on the client's project teams, tackling several large and long-term projects. The team utilized a wide range of technologies including VB.Net, ASP.Net, C#, Java, GeoServer, OpenLayers, MS SQL, PostgreSQL, PostGIS, JavaScript, Angular, and various other technology stacks.

#### **Key points for fruitful cooperation:**

- Contact points are highly responsible members
- Excellent engineers and technicians fully understand project requirements and deliver final products on time
- Coherent processes and excellent tools to monitor project development and milestones.

#### **3D Virtual Event Booth**

o Client: Singapore

o Time: 07/2020 -02/2021

o Man-month: 14

o Communication channels: Skype, Slack

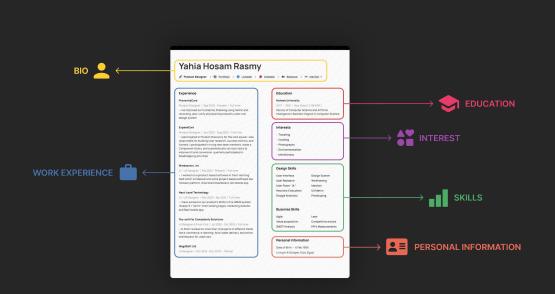
o **Description**: Developed a user-friendly 3D virtual event booth web application. It helps users easily find and connect with vendors for event planning and is smoothly integrated into the client's CMS platform.

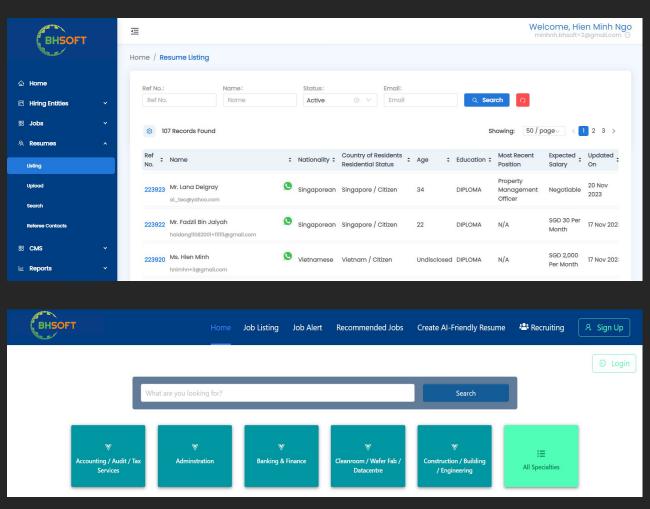
#### o Technologies used:

- React, Three.js
- Strapi, GraphQL, MongoDB



### **Candidate Tracking System**





### **Candidate Tracking System**

o Client: Singapore

o Time: 2020 - present

o Man-month: 150+

o Communication channels: Slack

o Description: Rebuild an ATS system for enhanced user-friendliness, featuring upgraded tools for both job seekers and recruiters. We also leverage Machine Learning models to autonomously scrutinize and understand resume content, ensuring critical details are identified.

#### **Technologies used:**

- Front-end: Vue.js, NuxtJS

- Back-end: NodeJS

- Database: PostgreSQL

- Cloud: AWS Lightsail, S3

Machine Learning: NLTK, BERT, SpaCy,
 N-gram, OCR, Context learning

### Web App for Restoration

o Client: Australia

o Time: 05/2022 -04/2023

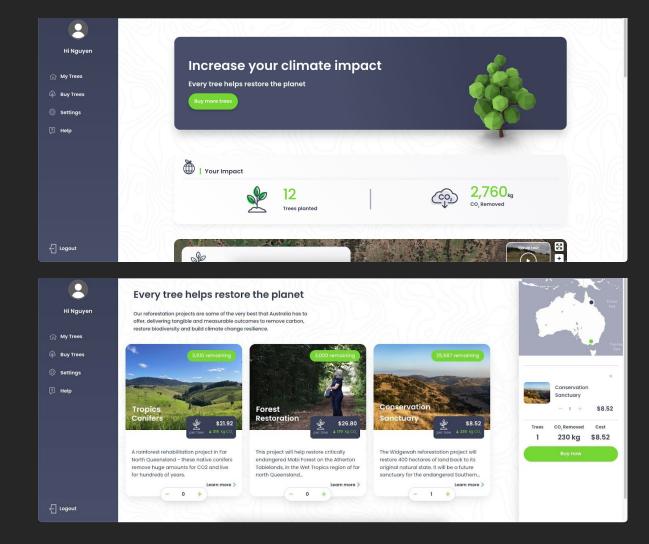
o Man-month: 28

o Communication channels: Slack, Jira

O Description: Created a simple, easy-to-use web app where people can buy trees to help local reforestation and see the CO2 those trees take out of the air, all wrapped up in a nice-looking design.

#### o Technologies used:

- React, NextJS, Three.js, Mapbox
- .NET, NodeJS, MSSQL, Vite, Docker, Bitbucket Pipelines



#### **Digital Food Safety**

o Client: Australia

o Time: 02/2021 - 08/2022

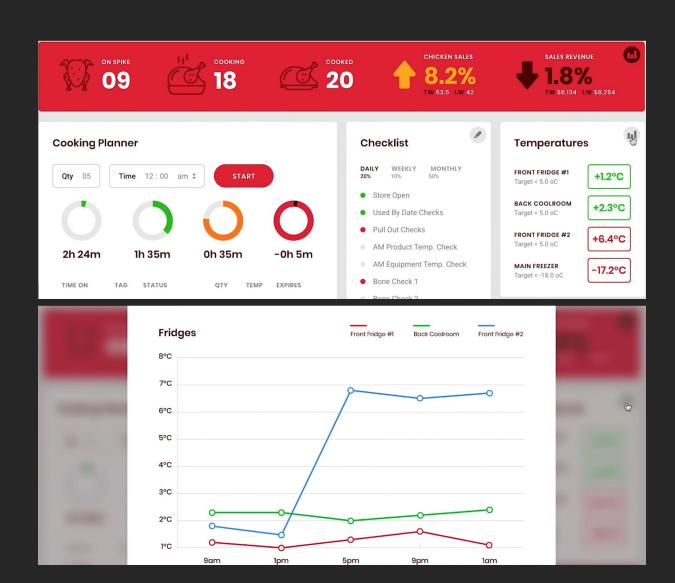
o Man-month: 80

o Communication channels: Slack

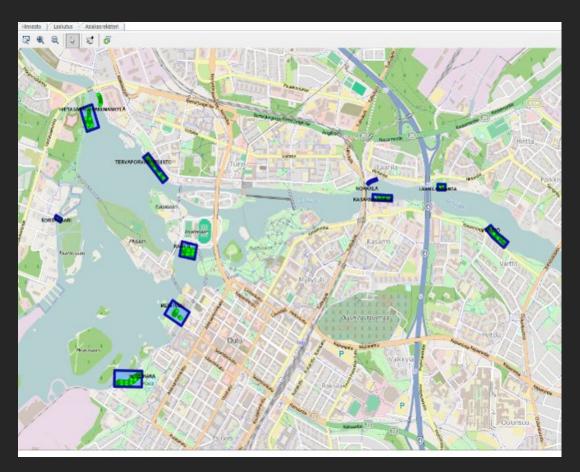
O Description: Develop a platform with front-end and back-end functionalities for informed decision-making, brand risk reduction, and consumer protection, featuring asset management, temperature monitoring, analytics, and inspections.

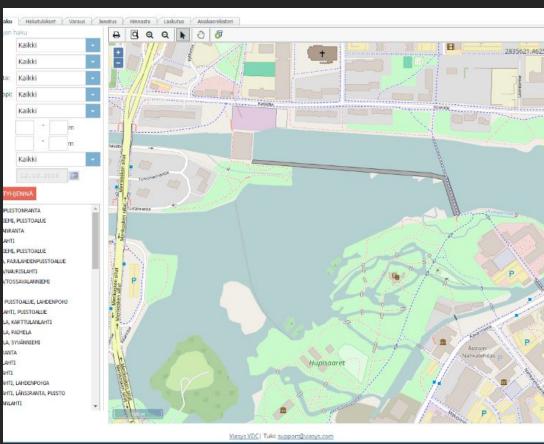
#### o Technologies used:

- Angular 6+, NodeJS, MongoDB, AWS IoT



## City's Facilities





### City's Facilities

o Client: Finland

o Time: 5 years. Complete in 2018

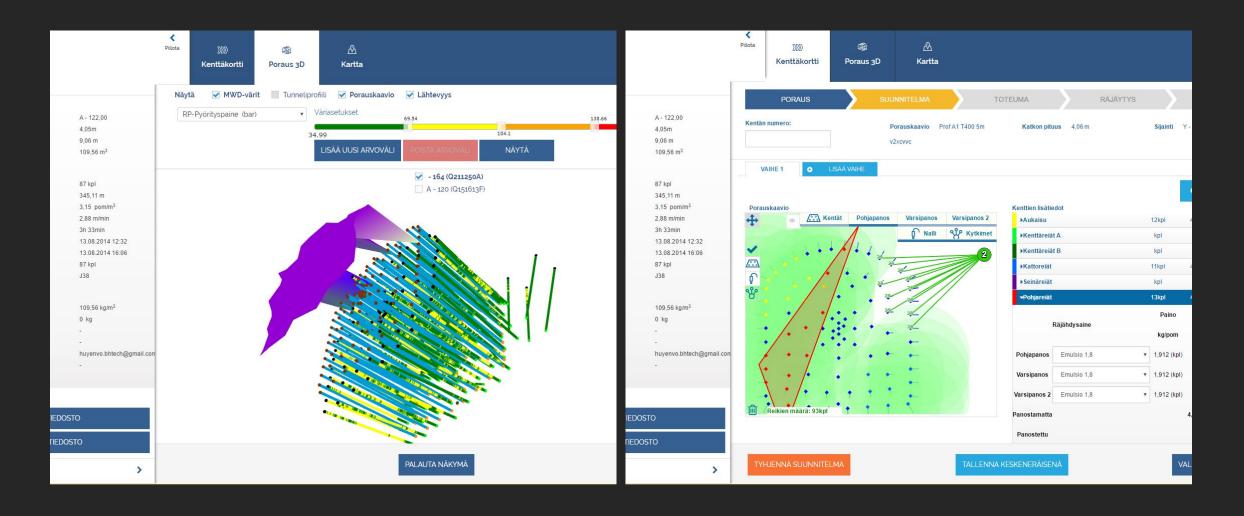
o Communication channels: Trello

O Description: Developed a platform with front-end and back-end functionalities for informed decision-making, brand risk reduction, and consumer protection, featuring asset management, temperature monitoring, analytics, and inspections.

#### **Technologies used:**

- Back-end: ASP.NET WinForms & Web Forms, C#, IIS, MapInfo MapXtreme, MapGuide/AIMS, Crystal Reports, REST API, GeoServer.
- Front-end: JavaScript, jQuery, Angular,
   Bootstrap 3, HTML5, 3D & 2D simulation,
   OpenLayers 3, OpenStreetMap
- Databases: Oracle 11, PostgreSQL, PostGIS

### **Tunnel Construction Management System**



#### **Tunnel Construction Management System**

o Client: Finland

o Time: 5 years. Complete in 2018

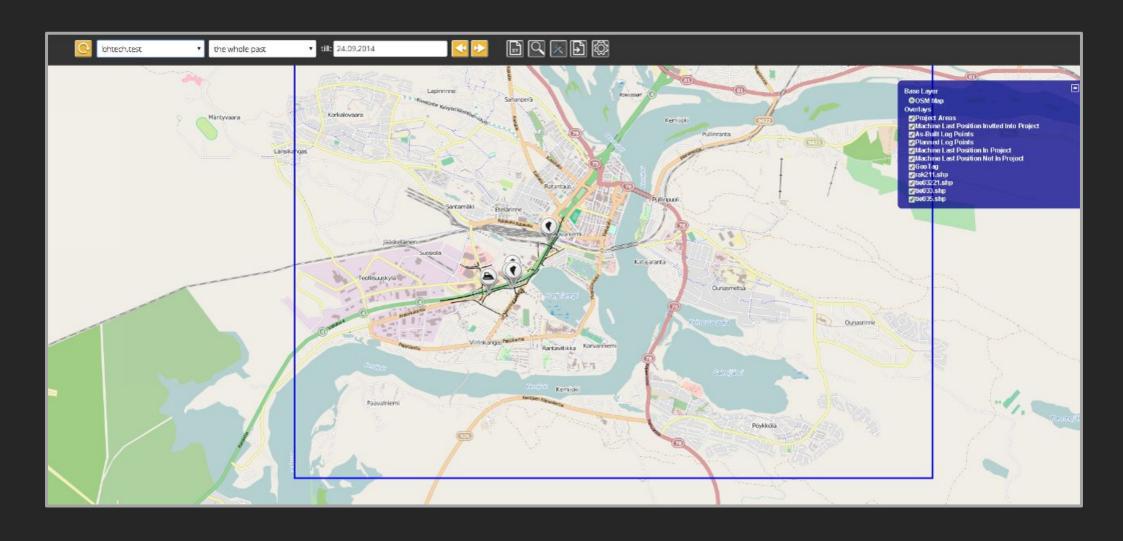
o Communication channels: Trello

O Description: Develop a platform with front-end and back-end functionalities for informed decision-making, brand risk reduction, and consumer protection, featuring asset management, temperature monitoring, analytics, and inspections.

#### Technologies used:

- Back-end: ASP.NET Web Forms, C#,
   GeoServer, OpenLayers 3, Tomcat,
   OpenStreetMap, IIS
- Front-end: JavaScript, Bootstrap 3, 3D&2D simulation, WebGL, Three.js, jQuery
- Databases: Oracle 11, PostgreSQL, PostGIS

## **Project Machine Management**



### **Project Machine Management**

o Client: Finland

o Time: 4 years

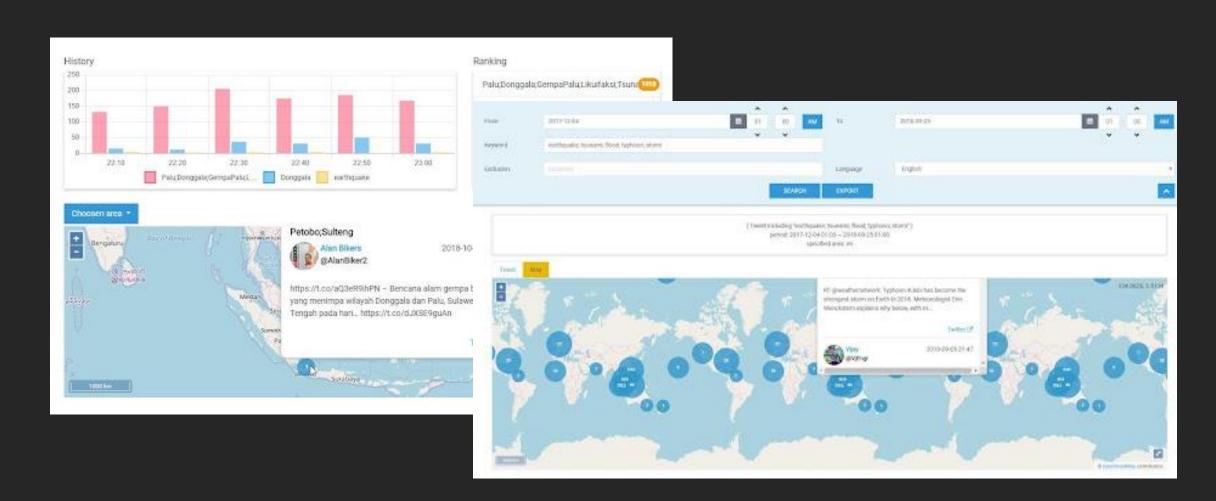
o Communication channels: Trello

O Description: Developed a platform with front-end and back-end functionalities for informed decision-making, brand risk reduction, and consumer protection, featuring asset management, temperature monitoring, analytics, and inspections.

#### Technologies used:

- Back-end: ASP.NET Web Forms, C#,IIS, GeoServer, OpenLayers 3,OpenStreetMap, Tomcat
- Front-end: JavaScript, jQuery,Bootstrap 3
- Databases: PostgreSQL, PostGIS

### **SNS Data Analysis System**



#### **SNS Data Analysis System**

o Client: Japan

o Time: 7/2019 - 9/2019

o Communication channels: Skype

Description: Develop a social network service (SNS) data analysis system designed to predict, prepare for, and provide early warnings of potential natural disasters using data from social media channels. Twitter has been chosen as the primary source for this analysis. BHSoft members going on-site at partner company.

#### Technologies used:

- Back-end: NodeJS, Nginx, OpenLayers,OpenStreetMap

- Front-end: Angular 8

- Databases: MariaDB, MongoDB

### **Drawing Application for Builders**

o Client: Australia

o **Time**: 01/2021 - present

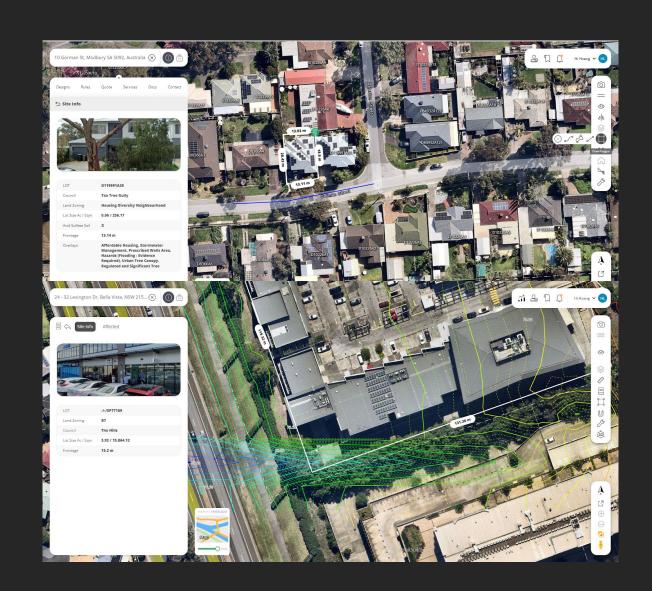
o Man-month: 60+

o Communication channels: Slack, Trello

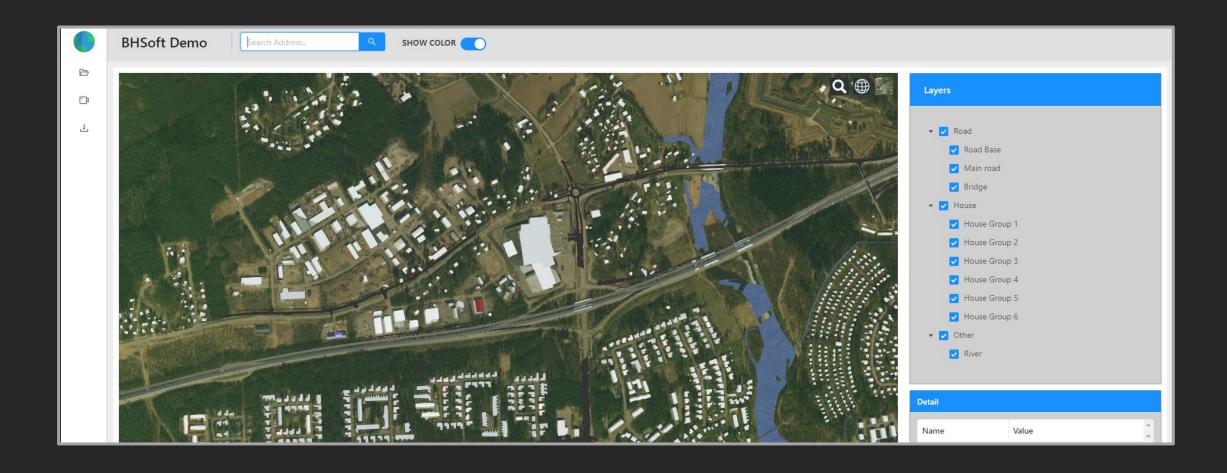
o Description: Developed an integrated drawing tool for the client's existing map, BHSoft utilized the Leaflet library for its construction. Leaflet was selected for its compatibility with GeoJSON data, eliminating the need to manage projections.

#### o Technologies used:

- React
- Leaflet



### **Cesium Integration & Development**



### **Cesium Integration & Development**

o Client: Finland

o Man-month: 15+

o Communication channels: Skype

o Description: Build Proof of Concept demo for locating and displaying 3D data of the city at right position on the 3D map in web platform.

o Technologies used:

- Front-end: React, Cesium

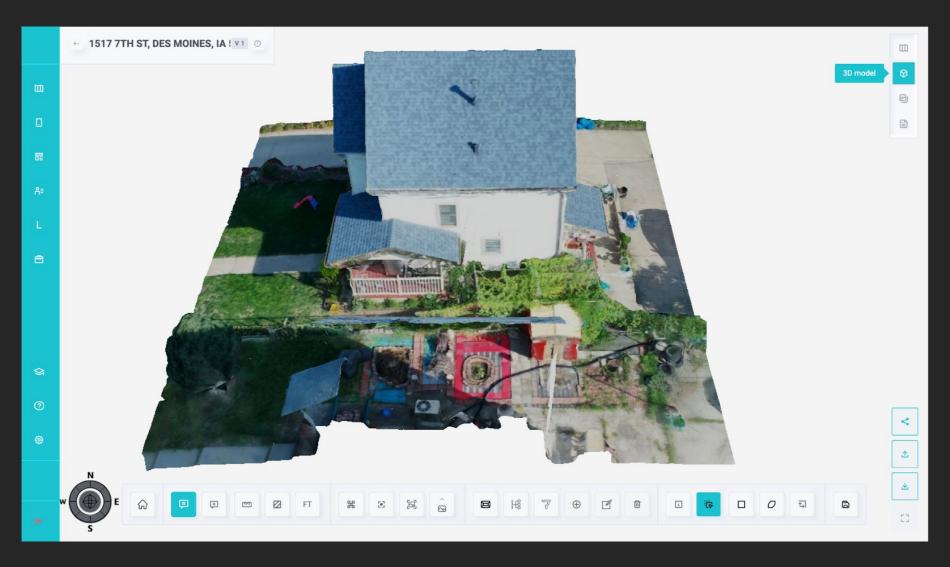
- Back-end: NodeJS

- Cloud: AWS

#### **Key points for fruitful cooperation:**

- The project started with two engineers in charge of development and managing the work.
- As the project evolved, there was a request from the customer to expand the team to include up to 10 developers.
- BHSoft was fully prepared to meet this need, offering the best talent from our exceptional teams to our valued customer.

### **3D Structural Analysis Of House Exteriors**



### **3D Structural Analysis Of House Exteriors**

o Client: America

o Time: 11/2021 - present

o Man-month: 30+

o Communication channels: Telegram,

produce high-resolution maps and 3D models, as well as provide analysis and annotation capabilities. We have created a 3D program with numerous functions, such as measuring distance and area, constructing a wireframe for the roof, and noting where the previous version had damages.

#### Technologies used:

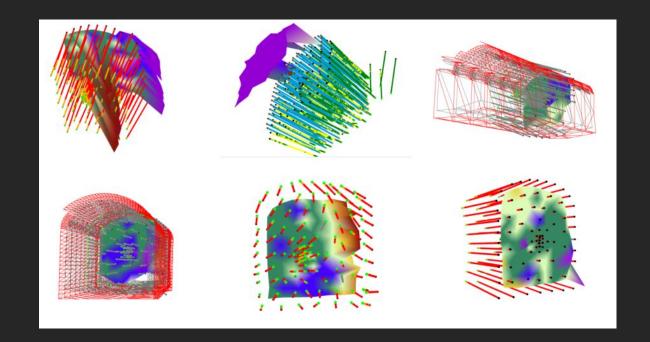
- NodeJS
- MongoDB
- Sentry
- React
- Google Maps API
- Leaflet
- Cesium
- React Native

#### 3D Visualization Viewer of Drills

- o Client: Finland
- o Description: Developed an IFC file viewer for iPad, utilizing the AssimpKit library to interpret IDF files and transform them into SceneKit objects for native iOS rendering. This enables users to directly edit and modify building model attributes right on their iPad.

#### o Technologies used:

- Back-end: ASP.NET, NodeJS, Express
- Front-end and UI: Autodesk Forge,JavaScript, Three.js



### BIM & 3D GEOSPATIAL SOFTWARE PROJECTS

### **Presentation Tool for BIM Project**

o Client: Finland

o Time: 07/2019 - present

o Man-month: 100+

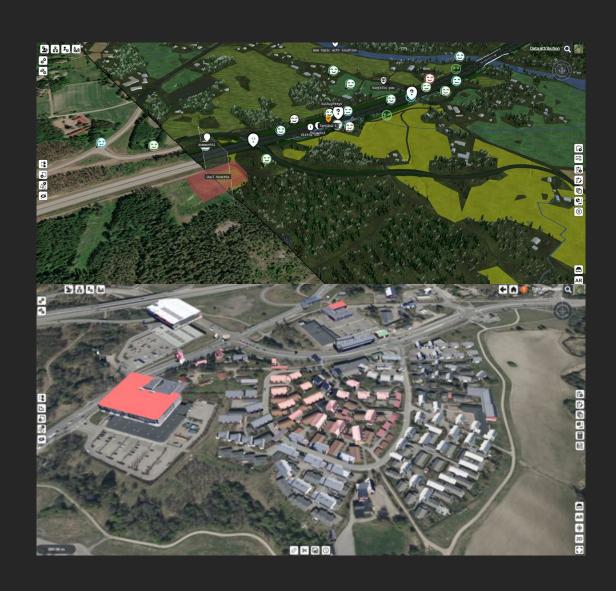
o Communication channels: Slack, Jira

O Description: Build a virtual playground to manage, innovate, collaborate, simulate, analyze, and optimize projects virtually before final decisions and real-world implementation. It also allow users to compare architecture competition alternatives with VR and AR.

#### o Technologies used:

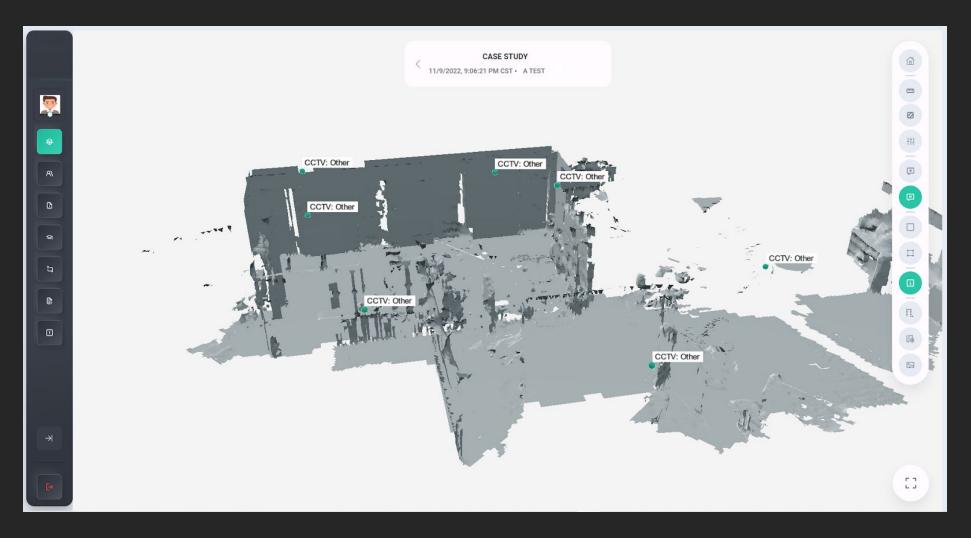
- Back-end: NodeJS, Python/Odoo

- Front-end: React, Cesium



## BIM & 3D GEOSPATIAL SOFTWARE PROJECTS

### **3D Scanning House Interior Application**



### BIM & 3D GEOSPATIAL SOFTWARE PROJECTS

### **3D Scanning House Interior Application**

o Client: America

o Time: 12/2021 - present

o Man-month: 30+

o Communication channels: Telegram, Trello

o Description: Developed a user-friendly 3D scanning app that enables iPhone users with the support of Lidar to capture and display their home interiors as 3D models. The app incorporates Machine Learning to detect and label objects, as well as to track the user's movement throughout the space.

#### Technologies used:

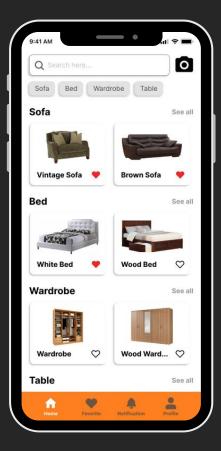
- Back-end: NodeJS, .NET, Sentry, Google Maps API

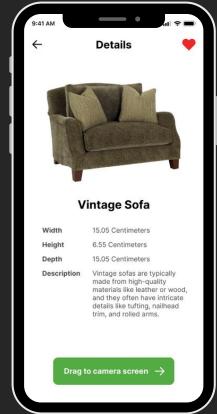
- Front-end: React, Leaflet, Cesium, Three.js

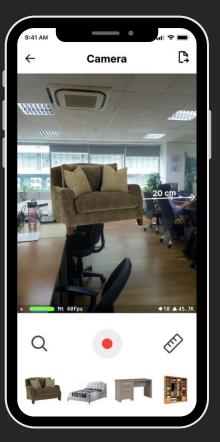
- Mobile: React Native, iOS Lidar scan

- Database: MongoDB

#### **MYOPIA**











#### **MYOPIA**

o Client: Vietnam

o Time: 2022

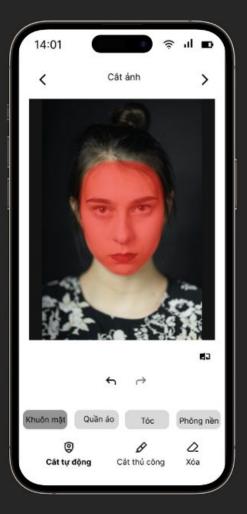
o Man-month: 8

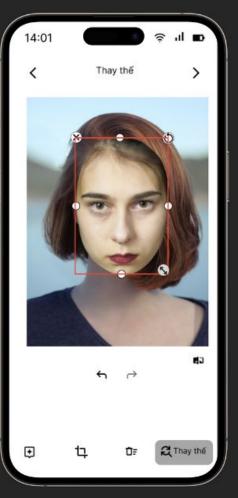
o Communication channels: Slack and Trello

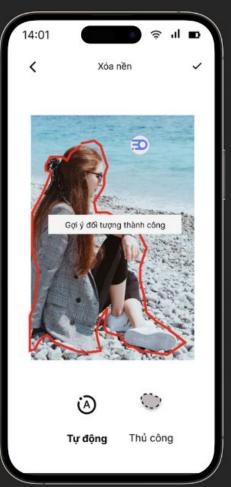
(AR) camera view application for both Android and iOS recently. Using the AR camera, users can move objects from the gallery into appropriate locations by zooming in/out, dragging & dropping, rotating to various angles and determine the necessary distances when placing objects on indoor surfaces.

- Machine Learning: NVIDIA CUDA SDK,
   TensorFlow, OpenCV, Anaconda, Keras
- 3D: PyTorch3D, COLMAP, Matching Tetrahedral, DMTet, MeshLab
- Back-end: NodeJS
- Front-end: React, JavaScript, Map
- Database: MongoDB

#### **EFFACE**











#### **EFFACE**

o Client: Vietnam

o Time: 2023

o Man-month: 11

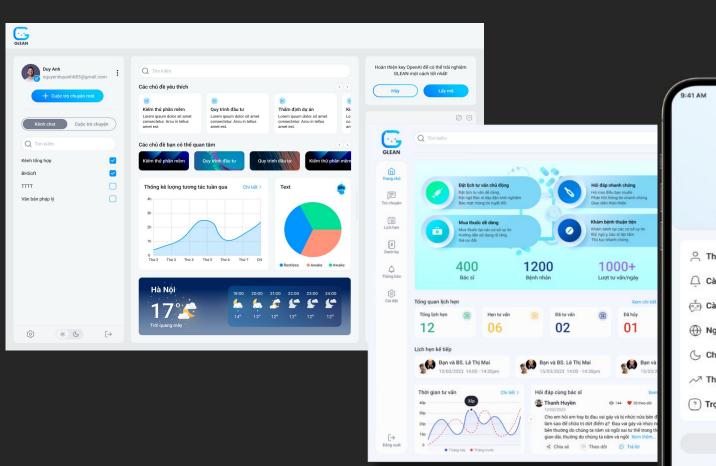
o Communication channels: Slack and Trello

O Description: Develop a user-friendly Al-powered Photo Editing app provides a simplified, yet high-quality editing for both Android and iOS. Main features include:

- Object removal.
- Background removal.
- Face removal.
- Face marks removal.
- Facial feature replacement.

- OpenCV (C++)
- TensorFlow (Python)
- Inpainting
- Generative Adversarial Networks (GAN)
- Graph Neural Network (GNN)

#### **GLEAN**





Lịch hen Danh bạ Thông báo Cài đị



#### **GLEAN**

o Client: Vietnam

o Time: 2022 - 2023

o Man-month: 15

o Communication channels: Slack and Trello

Description: Offer a solution for eye diseases, streamlining and improving early detection catered to both web applications and mobile versions on Android and iOS. Main features include:

- Role-based access
- Messenger, Notification
- Profile management
- Image recognition
- Language processing through images

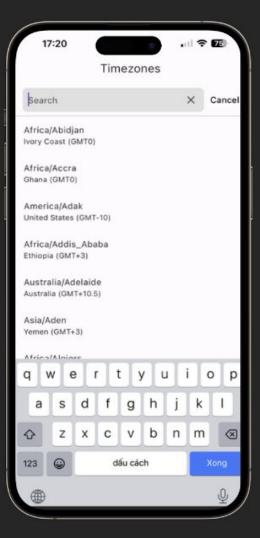
- OpenCV, Yolo, LLAMA 2
- Iris extraction
- Segmentation, Feature extraction
- NVIDIA Cuda
- Attention Transformer
- Text encoding
- Self/multi-head attention
- Semantic analysis
- Jupyter, Colab, Hugging Face

#### **World Time Zones Converter**









#### **World Time Zones Converter**

o Client: Vietnam

o Time: 2023

o Man-month: 6

o Communication channels: Slack and Trello

- o Description: Implement a time zone converter mobile app for both Android and iOS. Main features include:
  - Convert time with a glance down the column of hours.
  - Search and add locations by city, region, country name.
  - Select and share time.
  - Manually re-order and sort.

#### **Technologies used:**

- Back-end: Python

- Front-end: Flutter

Available on:

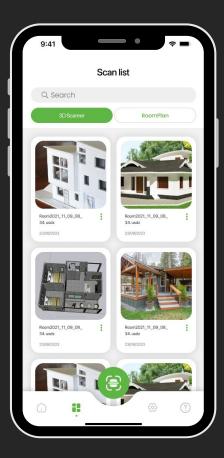




#### RoomCAP









#### RoomCAP

o Client: Vietnam

o Time: 2023

**o Man-month**: 1.5

o Communication channels: Slack and Trello

- o Description: Develop a mobile app that uses iPhone's LiDAR technology for easy creation of detailed 3D floor plans. Main features:
  - Capture exact dimensions & item placements.
  - Automatically detect furniture.
  - Get detailed USD/USDZ outputs for all room components.

#### Technologies used:

- iOS Swift

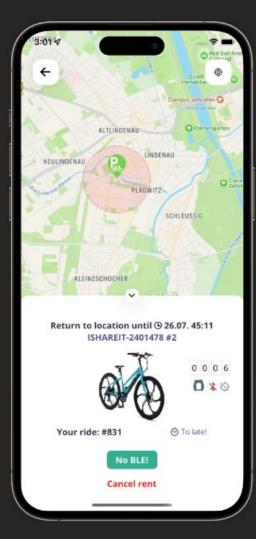
Available on AppStore:

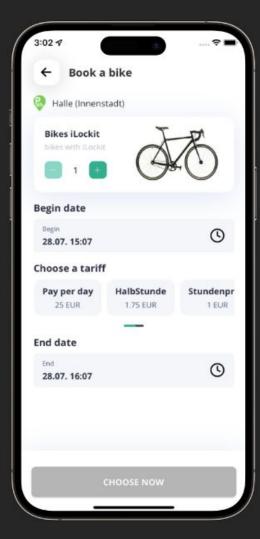


### **Bike Sharing Application**









### **Bike Sharing Application**

o Client: Germany

o **Time**: 02/2022 – Present

o Man-month: 16

o Communication channels: Slack and Trello

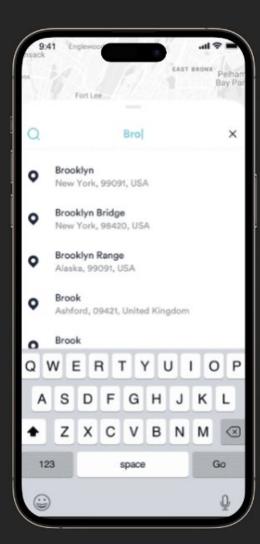
o **Description**: Develop a mobile app available in app stores that helps users easily rent a bike and offers a fully automated bike sharing. BHSoft was responsible for the new UI and additional feature developments for both the Android and iOS version of the app.

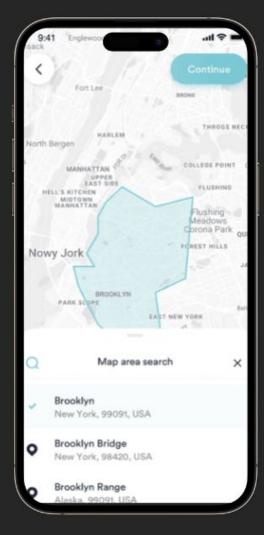
- React Native
- Firebase

### **Location-based communicating app**









#### **Location-based communicating app**

o Client: Finland

o Time: 08/2019 – 01/2020

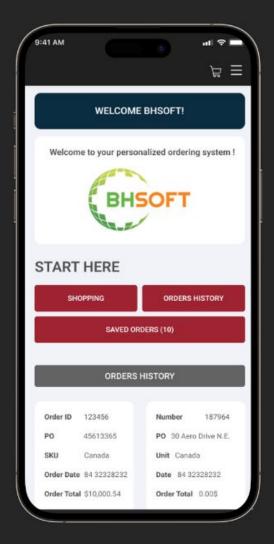
o Man-month: 10

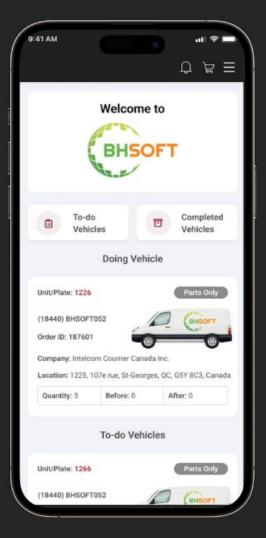
o Communication channels: Slack, Skype, Trello

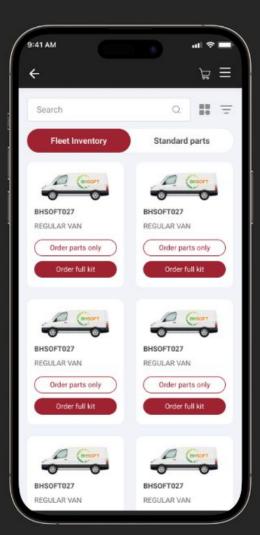
- O Description: Developed a native app on Android & iOS platforms for a Finnish company who provides local connecting solutions.
  - The mobile apps allow users to connect with people who live, work, or spend time in their neighborhood and promote their business, and participate in events in the areas.

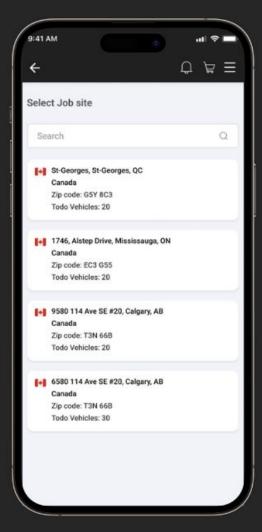
- Swift, Swinject, RxSwift,
- Kotlin
- Dagger, Databinding, RxJava
- GeoServer, Google Maps, MapKit
- NodeJS, Express.js
- PostgreSQL
- AWS

### **Car Wrap Management Mobile App**









### Car Wrap Management Mobile App

o Client: North America

o Time: 09/2023 – Present

o Man-month: 10

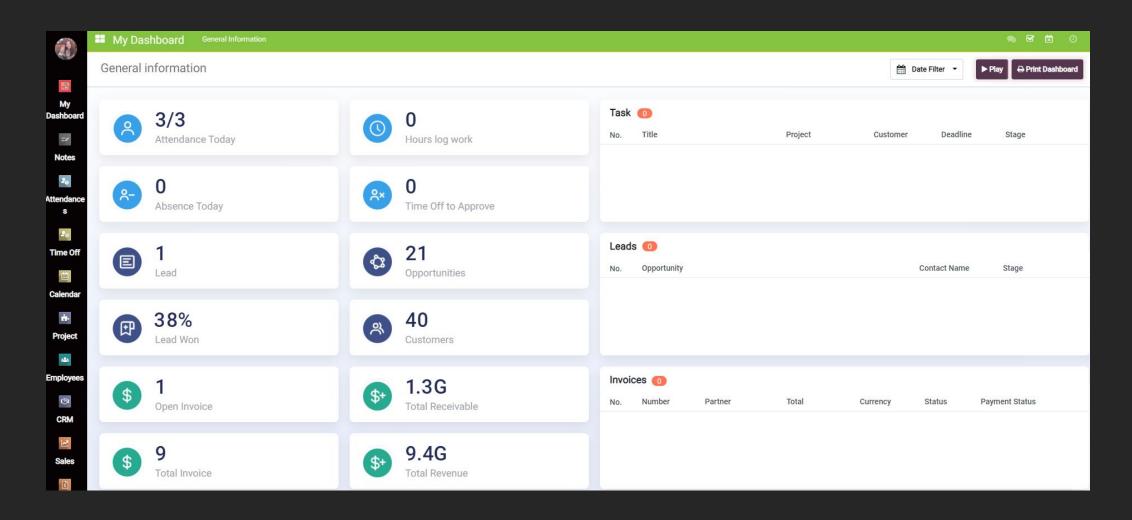
o Communication channels: Slack

- Description: Build an app to help staff get and finish tasks easier, making work smoother and employees happier.
  - BHSoft works with our client to make this app easy to use on phones, keeping it looking like their website. We also made sure the app could get all the info and tools it needs to work well.

#### **Technologies used:**

- Flutter

### **Odoo ERP Customization**



#### **Odoo ERP Customization**

o Client: Vietnam

o **Time**: 03/2022 – Present

o Man-month: 30+

o Communication channels: Slack

o Description: Integrate Odoo with AWS Cognito for SSO. Currently, we customize Odoo ERP as per business process needs to maximize competency along with personalized experiences. Especially, BHSoft customized Odoo eLearning with attractive UI and additional features offering a better user experience.

- Odoo
- Python

### **Car Wrap Management System**

o Client: America

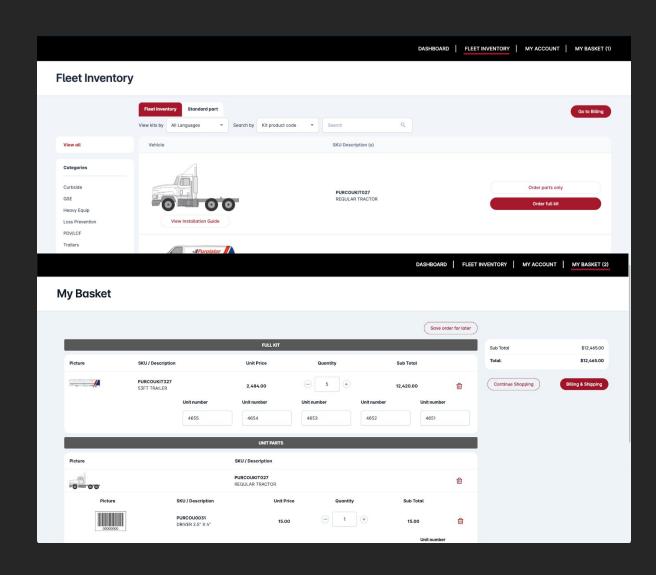
o Time: 02/2023 -present

o Man-month: 50+

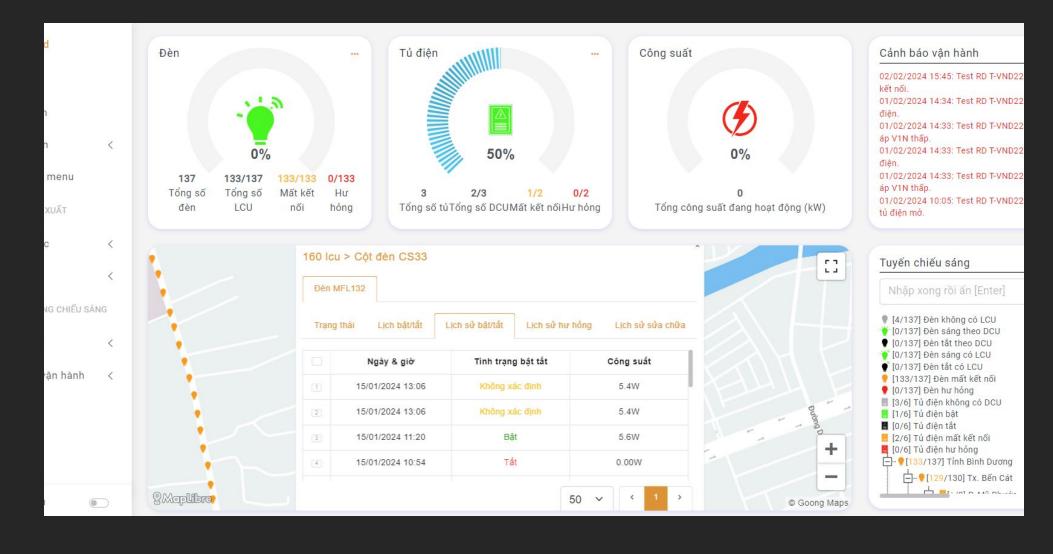
o Communication channels: Slack

O Description: Developed a system for a car wrap company, focusing on enhancements and creating a more user-friendly interface. Achieved the system unification and UI improvements, leveraging AngularJS and NodeJS Proxy for optimization and efficiency.

- NodeJS/Nest.JS, Angular 14
- Flutter
- MySQL MS SQL



### **Light Control Management System**



### **Light Control Management System**

o Client: Vietnam

o Time: 01/2022 – Present

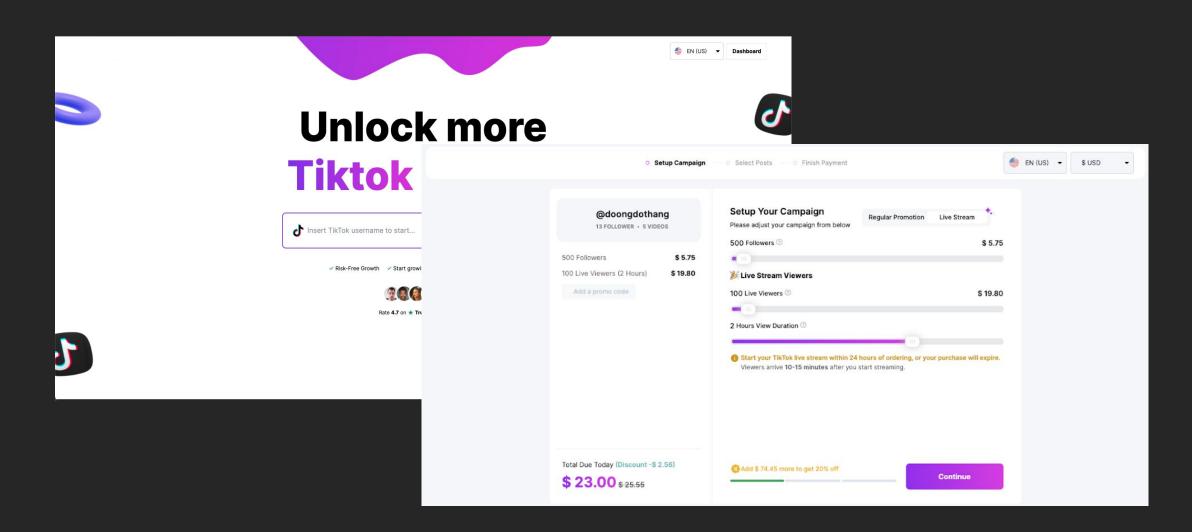
o Man-month: 15+

o Communication channels: Zalo and Trello

- Description: Develop a web application for a Vietnamese business operating in lighting management industry. Main features include:
  - Manage lighting system via control devices.
  - Receive notifications from other users and administrators.
  - Plan modifications and record failures of lighting equipment and materials.
  - Assign tasks, create requests, ask questions to system administrators, etc.

- Laravel 8
- Vue.JS
- PostgreSQL
- AWS ElastiCache
- AWS IOT
- AWS SQS
- AWS S3
- WebSocket

#### **Social Account Promotion Platform**



#### **Social Account Promotion Platform**

o Client: Thailand

o Time: 10/2019 – Present

o Man-month: 40+

o Communication channels: Slack and Jira

- **Description**: Develop a web application for a digital agency focused on creating effective digital marketing campaigns helping their clients with improved ROI.
  - Manage campaigns.
  - Make transactions with various payment gateways.
  - Get report data from Google Ads API by user ID.
  - Pull data from Google ads API.

- React/Next.JS
- Python (FastAPI)
- MongoDB

# LET'S COLLABORATE!

Collaborating with **Bac Ha Software** brings together advanced tech and custom solutions. We dive into your goals, connecting innovation with impact, and prioritizing your success. Let's shape the future together!

SCAN TO PARTNER WITH US TODAY!

