

# A TechnoTackle Case Study



## Project Title

International Training – Development Arm



## Type of Business

Scuba Training Agencies (SDI, TDI, ERDI, PFI and First Response)



## Type of Document

Case Study



## Scope Of Work

IT Service, Development and Maintenance



## Application URL

[Explore Website](#)   [Explore Android app](#)   [Explore iOS app](#)



## Applications

iOS App, Android App, Laravel, WordPress, Moodle, WooCommerce

## Tech Stack



Automated Testing



\* Please note that certain screenshots in the case study are presented with dummy data for illustrative purposes - the information depicted is not real but serves to demonstrate the functionality of the application.

# Client Accolade



## Mr Flemming Elleboe

CTO, International Training

As a technology driven International Dive agency, we were impressed by Techno Tackle's talent, responsiveness, and system expertise. They have provided excellent resources, built a strong working relationship with us. Their team quickly grasped the complexities of our system, they have boosted our productivity and through those skills enhanced our ability to deliver more projects on time. While cost savings of course are important, what is more important is the increased efficiency and output. At this point they understand our system better than most of our internal staff, saving us time having to explain business processes, issues and implementing new projects. I highly recommend Techno Tackle and have already done so to others as they are a great choice for similar companies.



To watch the  
video testimonial

# About The Client Company

Our client, International Training, was founded in 1994 with a vision to safely instruct scuba divers in technical diving. Their main website is [www.tdisdi.com](http://www.tdisdi.com).

International Training is the parent company that encompasses several sub-brands, including Scuba Diving International (SDI), Emergency Response Diving International (ERDI), Professional Freediving International (PFI) and First Response Training International.

Based in Stuart, Florida, they collaborate with partners worldwide to deliver Differentiated Instruction-type certification products.





# Client Objectives



- ❁ When the client initially engaged with the Techno Tackle Team, they were looking for developers that would be able to work with mobile applications and websites.
- ❁ Through discussions with the client team, it became apparent that the system was experiencing performance issues and lacked certain desired functionalities.
- ❁ Accordingly, the client sought our expertise to enhance existing features, add new features, fix bugs, and improve the performance of their Systems.
- ❁ In summary, the client approached us with the objective of maintaining and enhancing their current IT Systems.



## Project Management And Team Structure

We have implemented the **Software Development Life Cycle (SDLC)** process for developing and managing projects - requirement gathering, design, development, testing and deployment. Our team comprises of as mentioned below:

 <b>Project Manager</b>	<b>01</b>
 <b>App Developer</b>	<b>01</b>
 <b>Designer</b>	<b>01</b>
 <b>Back End Developer</b>	<b>08</b>
 <b>Quality Analyst</b>	<b>02</b>



## Architecture & Technologies

The app and the admin panel were developed based on the MVC architecture. The technologies involved in design and development are mentioned below:

 **Design Tool**

Figma



 **Front End**

HTML, CSS



HTML



CSS

 **Back End**

Laravel, Wordpress, Moodle



Laravel



WORDPRESS



moodle

 **Database**

MySQL



MySQL



Jira Software



Projects

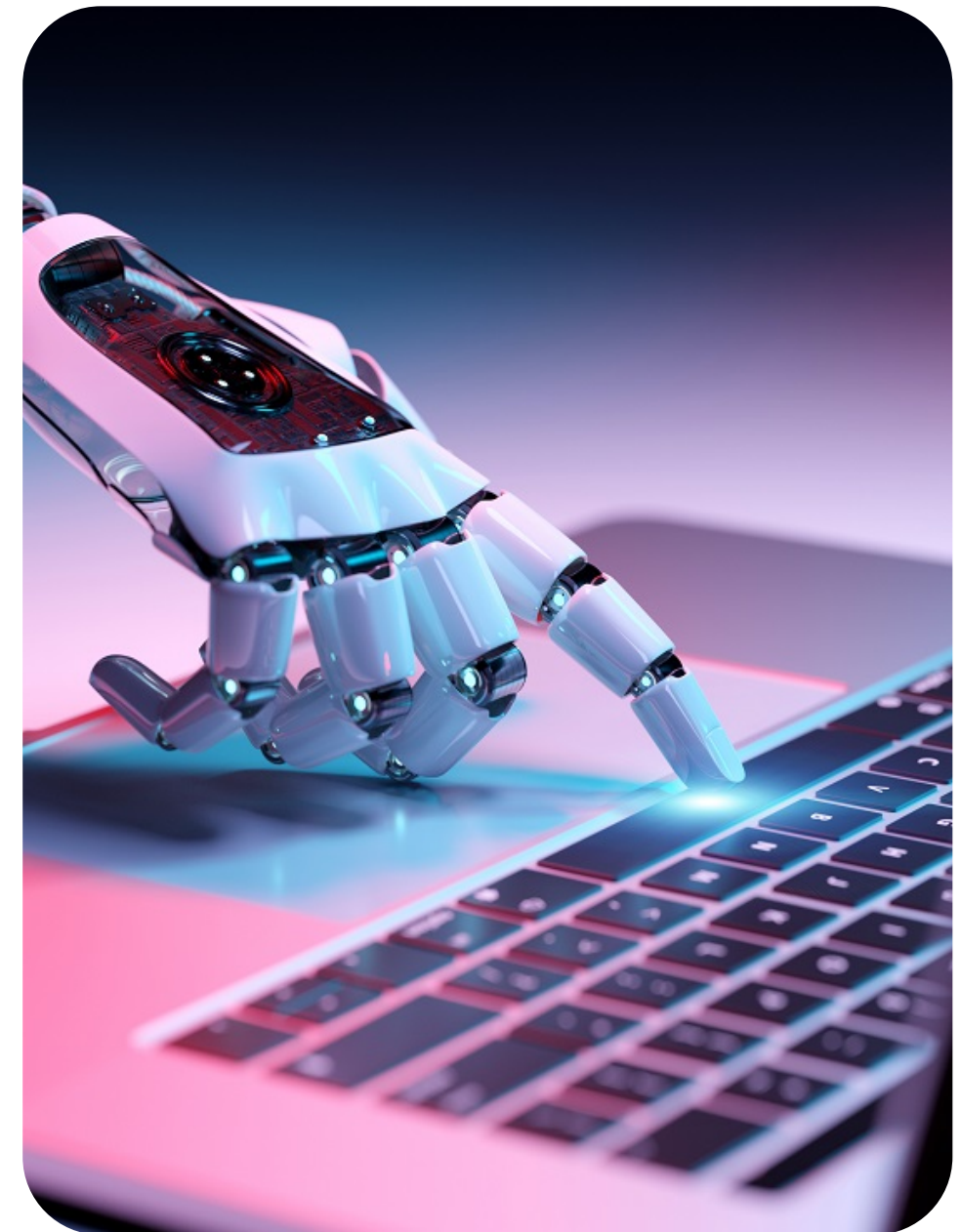
 **Project Management Tool**

Jira, Zoho Projects

# Resolution Details

## Feature Implementation Process

- 🔄 Client requirements can involve two possibilities:
  - Implementing new features.
  - Enhancing existing features within the legacy system.
- 🔄 Upon receiving client requirements the technical team conducts a feasibility study on the requirements. Afterward , the development team completes the development , followed by testing by the testing team.
- 🔄 The client reports bugs that arise in the current IT system through Jira (project management and issue tracking tool) . The development team fixes it and the testing team verifies it before deploying them to production.





## Enhancement Features ( Samples )

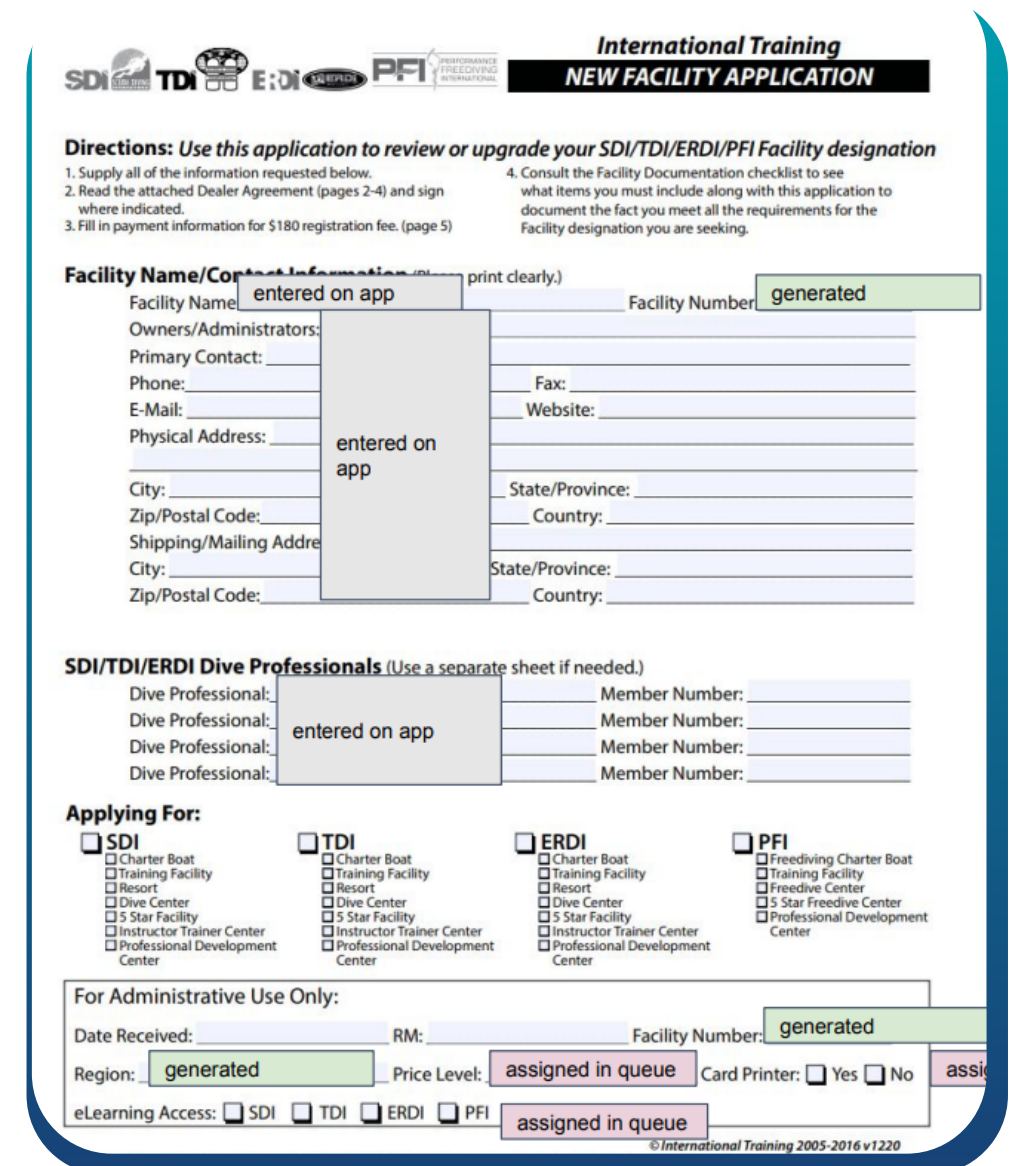
### Automating Facility Registration Process For Instructors And Facilities

#### Client Need

Automate the facility registration process, replacing the previous manual procedure that involved extensive paperwork for facility affiliation registration.

#### Solution

Implemented a simplified facility registration process. Achieved automation, eliminating manual paperwork.



**International Training**  
**NEW FACILITY APPLICATION**

**Directions:** Use this application to review or upgrade your SDI/TDI/ERDI/PFI Facility designation

1. Supply all of the information requested below.
2. Read the attached Dealer Agreement (pages 2-4) and sign where indicated.
3. Fill in payment information for \$180 registration fee. (page 5)
4. Consult the Facility Documentation checklist to see what items you must include along with this application to document the fact you meet all the requirements for the Facility designation you are seeking.

**Facility Name/Contact Information** (print clearly.)

Facility Name: entered on app Facility Number: generated

Owners/Administrators: entered on app

Primary Contact: \_\_\_\_\_

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

E-Mail: \_\_\_\_\_ Website: \_\_\_\_\_

Physical Address: entered on app

City: \_\_\_\_\_ State/Province: \_\_\_\_\_

Zip/Postal Code: \_\_\_\_\_ Country: \_\_\_\_\_

Shipping/Mailing Address: \_\_\_\_\_

City: \_\_\_\_\_ State/Province: \_\_\_\_\_

Zip/Postal Code: \_\_\_\_\_ Country: \_\_\_\_\_

**SDI/TDI/ERDI Dive Professionals** (Use a separate sheet if needed.)

Dive Professional: \_\_\_\_\_ Member Number: \_\_\_\_\_

Dive Professional: entered on app Member Number: \_\_\_\_\_

Dive Professional: \_\_\_\_\_ Member Number: \_\_\_\_\_

Dive Professional: \_\_\_\_\_ Member Number: \_\_\_\_\_

**Applying For:**

<input type="checkbox"/> <b>SDI</b>	<input type="checkbox"/> <b>TDI</b>	<input type="checkbox"/> <b>ERDI</b>	<input type="checkbox"/> <b>PFI</b>
<input type="checkbox"/> Charter Boat	<input type="checkbox"/> Charter Boat	<input type="checkbox"/> Charter Boat	<input type="checkbox"/> Freediving Charter Boat
<input type="checkbox"/> Training Facility	<input type="checkbox"/> Training Facility	<input type="checkbox"/> Training Facility	<input type="checkbox"/> Training Facility
<input type="checkbox"/> Resort	<input type="checkbox"/> Resort	<input type="checkbox"/> Resort	<input type="checkbox"/> Freedive Center
<input type="checkbox"/> Dive Center	<input type="checkbox"/> Dive Center	<input type="checkbox"/> Dive Center	<input type="checkbox"/> 5 Star Freedive Center
<input type="checkbox"/> 5 Star Facility	<input type="checkbox"/> 5 Star Facility	<input type="checkbox"/> 5 Star Facility	<input type="checkbox"/> Professional Development Center
<input type="checkbox"/> Instructor Trainer Center	<input type="checkbox"/> Instructor Trainer Center	<input type="checkbox"/> Instructor Trainer Center	
<input type="checkbox"/> Professional Development Center	<input type="checkbox"/> Professional Development Center	<input type="checkbox"/> Professional Development Center	

**For Administrative Use Only:**

Date Received: \_\_\_\_\_ RM: \_\_\_\_\_ Facility Number: generated

Region: generated Price Level: assigned in queue Card Printer:  Yes  No assigned in queue

eLearning Access:  SDI  TDI  ERDI  PFI assigned in queue

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Facility Registration Application Form (Manual)

## Facility Report Card Generation

### Client Need

The client was lacking clear visibility into affiliated facility details, including instructor details, facility type, total students certified in the specific year, total students certified to date, course wise certified student details, the percentage of certifications in every course and more. They have requested a facility report containing the necessary data for the last three

### Solution

A generation feature has been implemented, containing the required data for the last three years.

### Facility Report Card

[Print](#)

Facility Report Card		Date Generated	
Shag diving school	1005937		Saturday, March 02, 2024
Facility Primary Contact	John Bentley	SDI	Charter Boat
Facility Membership Status	Pending	TDI	Dive Center
Facility Price Level	Professional Center 1	ERDI	Training Facility
Total Years Active With Agency	1	PFI	Freedive Center
		FRTI	Professional Training Center

#### Affiliated Instructors

Number	Name	Level	Status	Admin	Students Certified Total (with facility)	Students Certified YTD (with facility)
3249370	Bala Sankar M	Instructor	Active	Facility Administrator	0	0

Showing 1 to 1 of 1 entries

### 2024

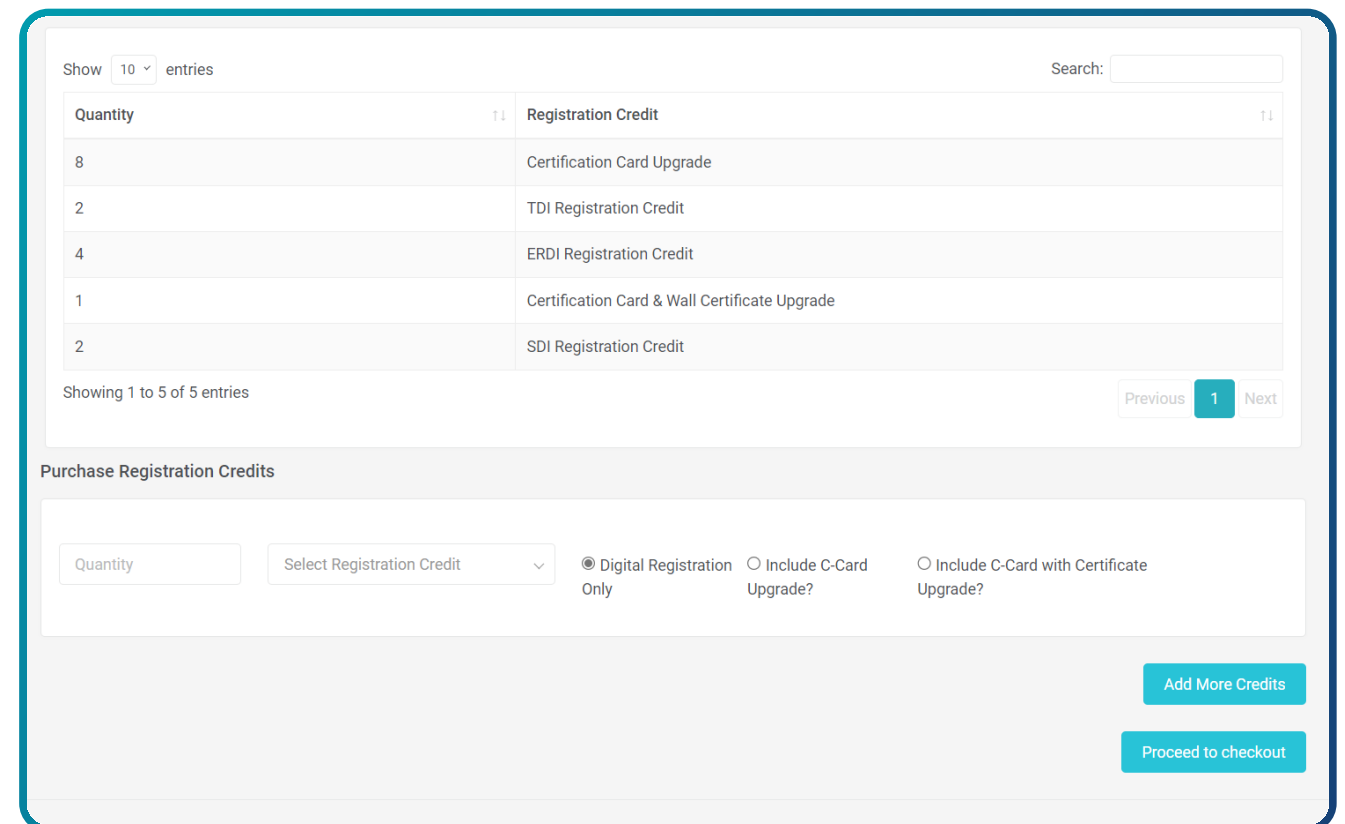
Total 2024 Certifications : 0

Agency	YTD Certifications	Agency Percentage	Specialty

## Purchase Credit Feature For Enhanced Payment

### Client Need

The client accepts direct payment options like credit cards and PayPal for their business operations. They wanted to add a "purchase credit" feature where customers can pre purchase credits and redeem them later at checkout for added convenience.



Showing 1 to 5 of 5 entries

Quantity	Registration Credit
8	Certification Card Upgrade
2	TDI Registration Credit
4	ERDI Registration Credit
1	Certification Card & Wall Certificate Upgrade
2	SDI Registration Credit

Purchase Registration Credits

Quantity:  Select Registration Credit:

Digital Registration Only  Include C-Card Upgrade?  Include C-Card with Certificate Upgrade?

[Add More Credits](#) [Proceed to checkout](#)

### Solution

Implemented a new "purchase credit" feature and clients' customers can conveniently pre-purchase credits for future use at checkout , [click here.](#)





# Online Leadership Processing



## Client Need

The client requires development of an online leadership processing feature that includes the functionalities of "registering a professional candidate", "Specialty upgrade rating" and "crossing over professional member".



## Solution

We implemented the required features. Please browse the links below to view the developed functionalities.

- 🔗 registering a professional candidate, [click here](#).
- 🔗 specialty upgrade rating, [click here](#).
- 🔗 crossing over professional, [click here](#).

## Purchase Credit Breakdown Report

### Client Need

We implemented a purchase credit feature, and the client required a credit report for billing purposes, displaying member, facility, and coupon purchase data.

### Certification Credits Billing

Member Facility Elearning Codes & Credits

#### Member Queue

Show 10 entries

Search:

Member #	Member Name	Office	Payment	Oldest Date
11710	Rob O'Goodenow	SDI/TDI/ERDI/PFI World HQ	Online	2023-10-27
12000	Troy Stephenson	SDI/TDI/ERDI Oceania	Online	2023-09-22
7616	Rick Kirkham	SDI/TDI Philippines	Online	2023-09-21
11679	David de las Heras Sola	SDI/TDI Spain	Online	2023-10-26
18699	John Bentley	SDI/TDI/ERDI/PFI World HQ	Online	2024-02-09
18699	John Bentley	SDI/TDI/ERDI/PFI World HQ	Terms	2024-02-09
19003	Jesse Iacono	SDI/TDI/ERDI/PFI World HQ	Online	2023-09-19
26500	Miki Kurimoto	SDI/TDI Japan	Online	2024-02-09

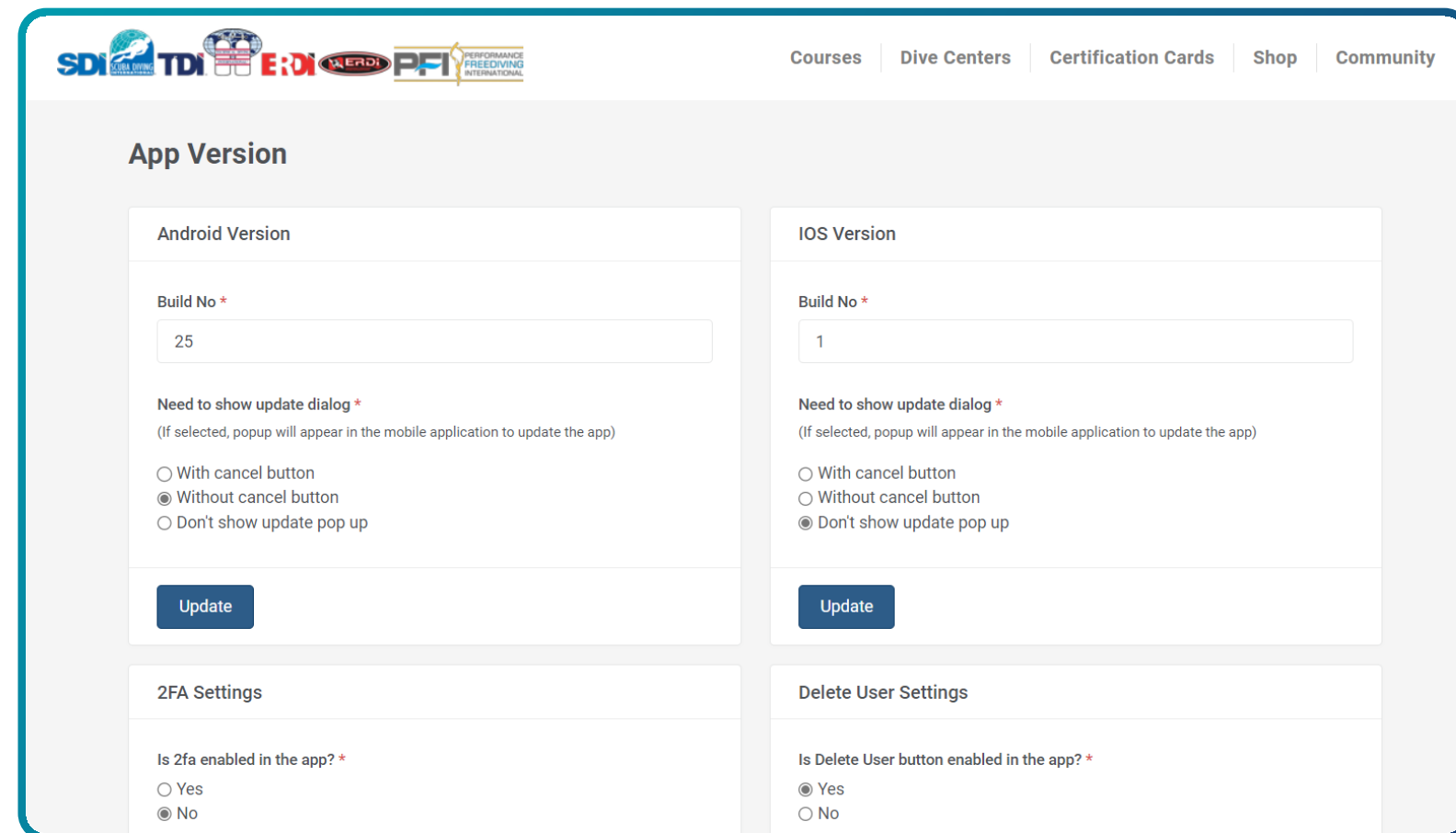
### Solution

We implemented a comprehensive credit report functionality to fulfill the client's billing needs. This report allows users to visualize their purchase credit data broken down by member, facility and coupon usage, providing essential insights for billing processes.

## Mobile Application Update With User Notification System

### Client Need

Client requested to implement a seamless update notification system for the mobile applications (Android and IOS) - users needed timely prompts to install new versions.



The screenshot shows the 'App Version' configuration page in an admin panel. At the top, there are logos for SDI, TDI, ERDI, WERDI, and PFI (Performance Freediving International). Navigation links for 'Courses', 'Dive Centers', 'Certification Cards', 'Shop', and 'Community' are visible. The main content area is divided into four sections: 'Android Version', 'IOS Version', '2FA Settings', and 'Delete User Settings'. Each section contains input fields for 'Build No \*', radio button options for 'Need to show update dialog \*' (With cancel button, Without cancel button, Don't show update pop up), and an 'Update' button. The '2FA Settings' section has a radio button for 'Is 2fa enabled in the app? \*' (Yes, No). The 'Delete User Settings' section has a radio button for 'Is Delete User button enabled in the app? \*' (Yes, No).

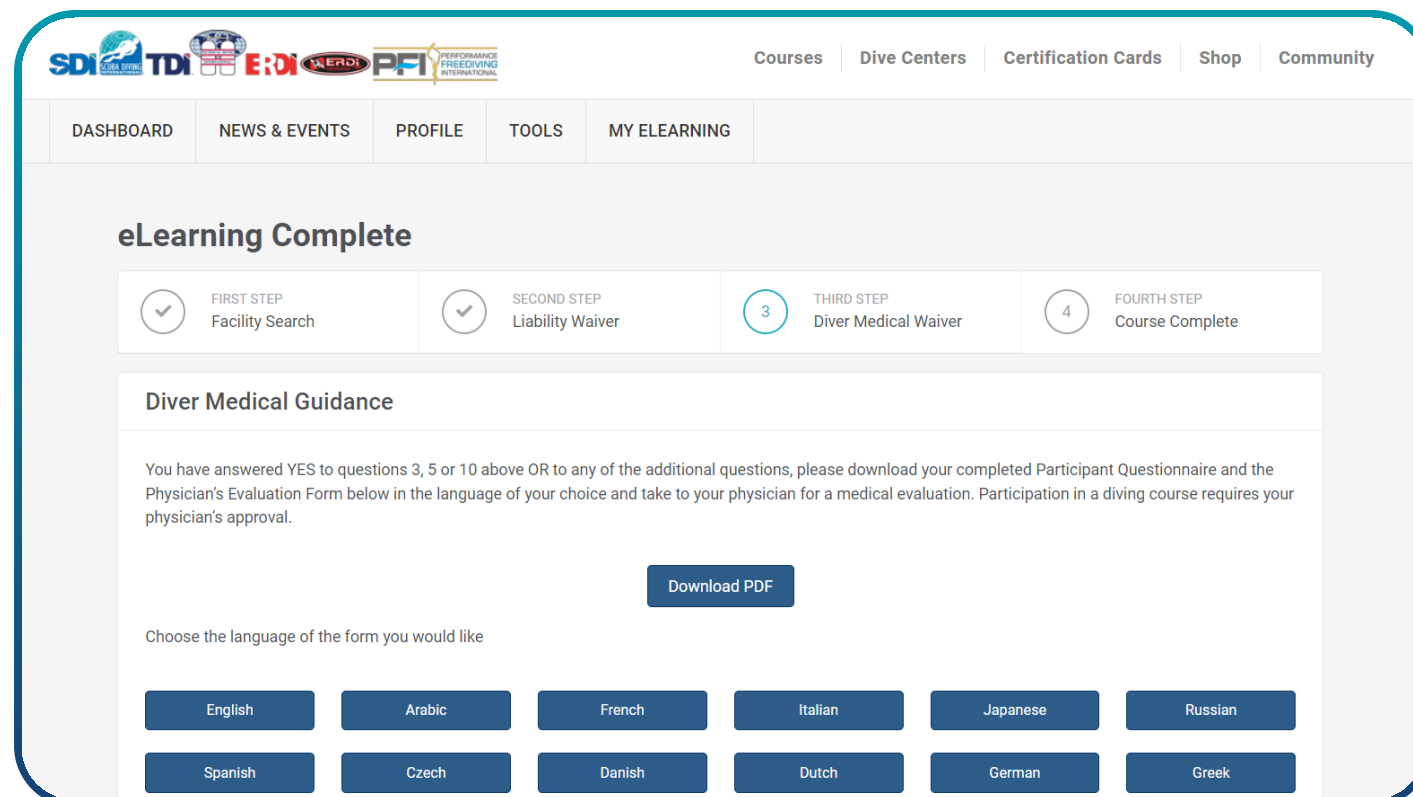
### Solution

Understanding this need, we implemented a user notification system within the admin panel. This empowers the client to effortlessly communicate mobile application updates directly to users, prompting them to install the latest version of the mobile application.





## Enhanced Course Completion Process With Liability And Medical Waivers



### Client Need

Before the candidates are completing the course, they must digitally sign the terms set as per the course completion process which is called liability waiver and client wanted to add a new term called medical waiver terms and wanted to add a feature in the back end to add or delete or edit new clauses under the terms.

### Solution

We have implemented a new term called "medical waiver" with a signature pad and have added a feature in the backend to allow the addition, deletion or modification of clauses within the terms.

## Additional Enhancement Features

In addition to the previously mentioned notable enhancements, we have also implemented additional features to improve the system's functionality and user experience.

01

We have implemented a two factor authentication login system specifically for members in the admin role.

02

The new payment gateway, Braintree has been successfully implemented.

Enter your Two-Factor Authentication Code

One-time code

Example : 123456

Remember this Browser

Login

**NOTE :** If you are having issues logging in, please make sure you are using the correct 2-Factor code since the 2-Factor codes change every 30 seconds. If you are still having issues logging in, please contact Support. You can reach us via Chat, call us, or send an email to [cs@tdisdi.com](mailto:cs@tdisdi.com).

If you had an Admin reset your 2-Factor, please [Click here](#)

# Additional Enhancement Features

**03**

As per the client's request, we have upgraded the four different legacy IT systems developed in Laravel, WordPress, Moodle and WooCommerce to their respective higher versions.

**04**

We have resolved the performance issues faced by the Moodle application, which is used by thousands of users. It is now working smoothly without any performance issues.

**05**

The implementation of multilingual features was a challenging process for the clients but we have simplified it with an easy solution - if any new language needs to be implemented then it can be easily added from the back end, allowing the site to support a new language effortlessly.



## Additional Enhancement Features

06

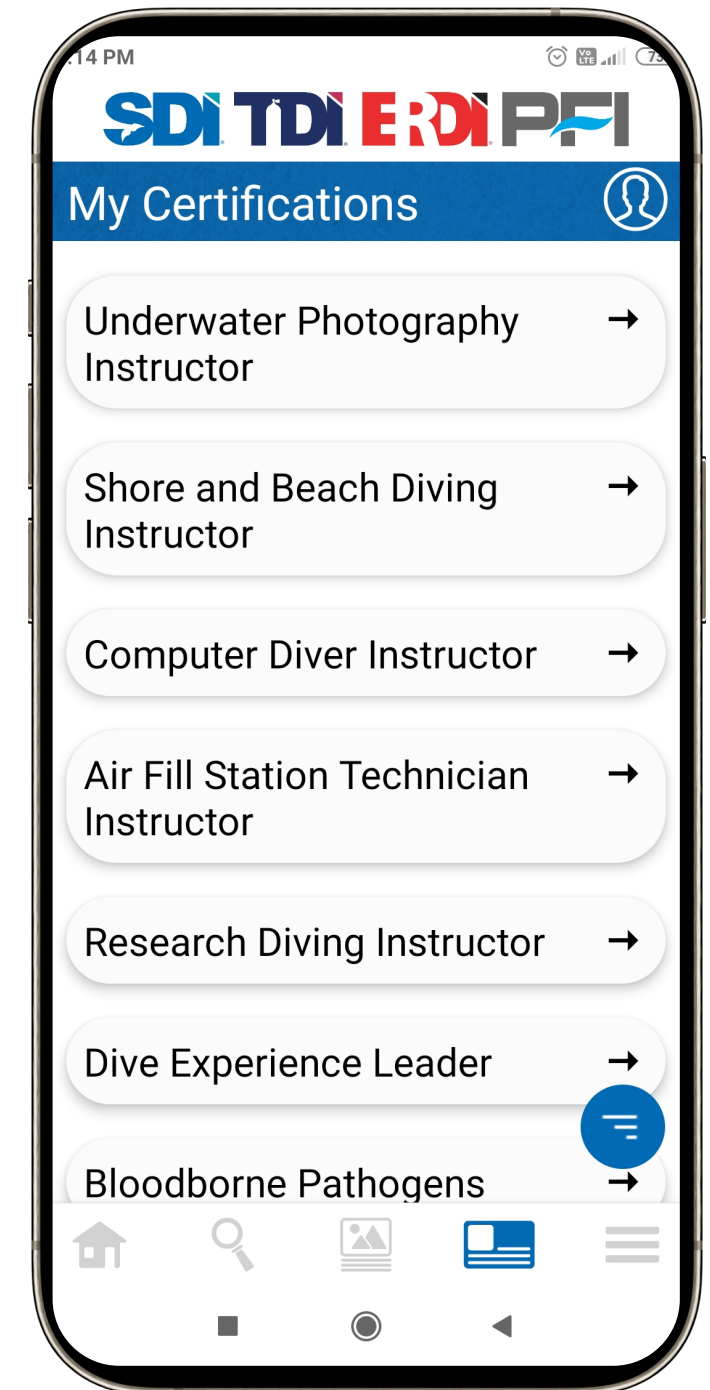
We noticed that error handling was not properly addressed in the legacy system. However, we have rectified the existing code and successfully implemented robust error handling mechanisms.

07

Course certificates can now be downloaded for members from the mobile application, even when the device is in offline mode.

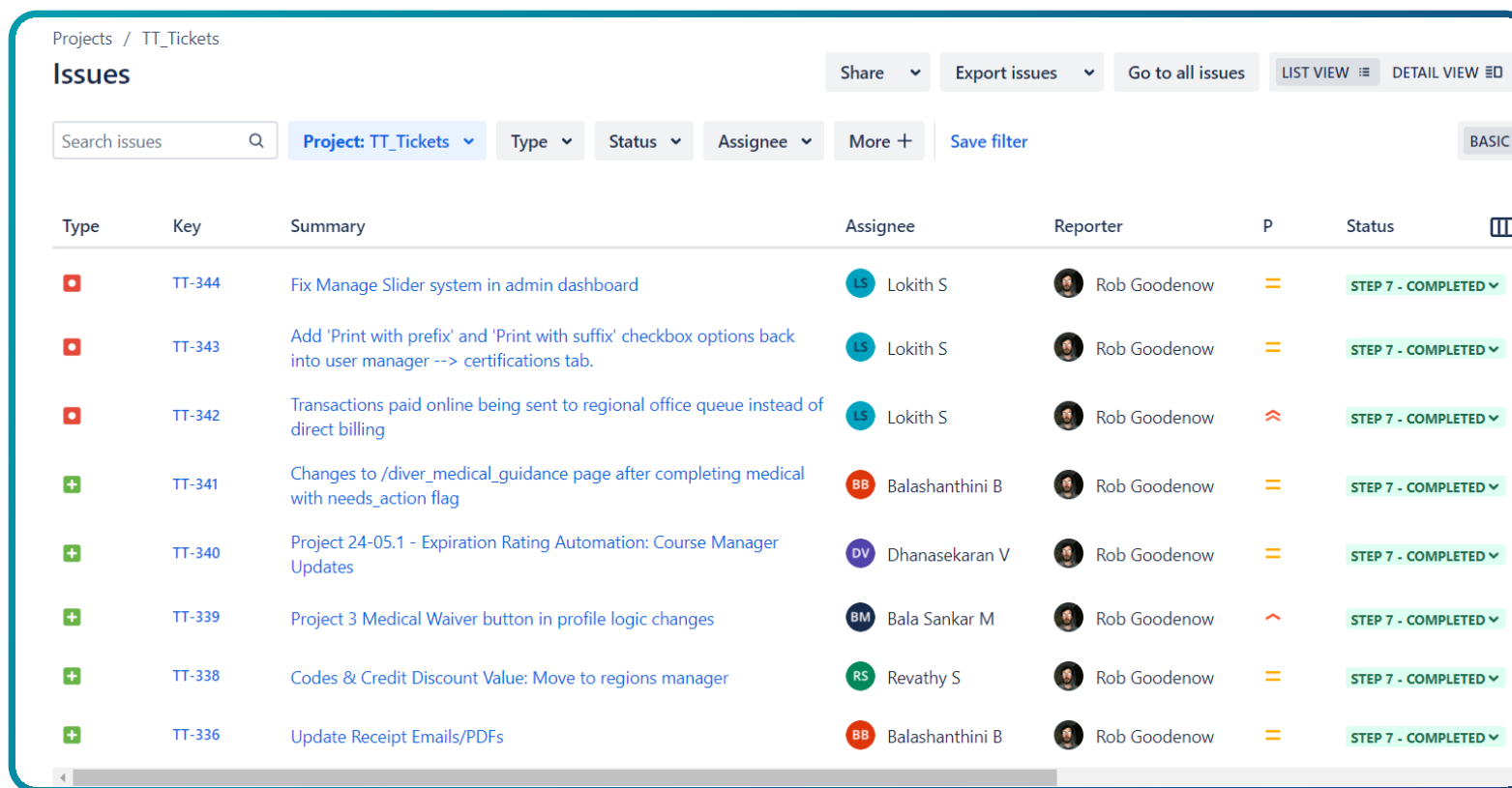
08

The plugins used in the websites have been updated to higher versions as per the client's request.



## Bug Fixing And Maintenance Process

Our team is addressing and resolving bugs that have been reported in the legacy system as part of our ongoing service and maintenance process.



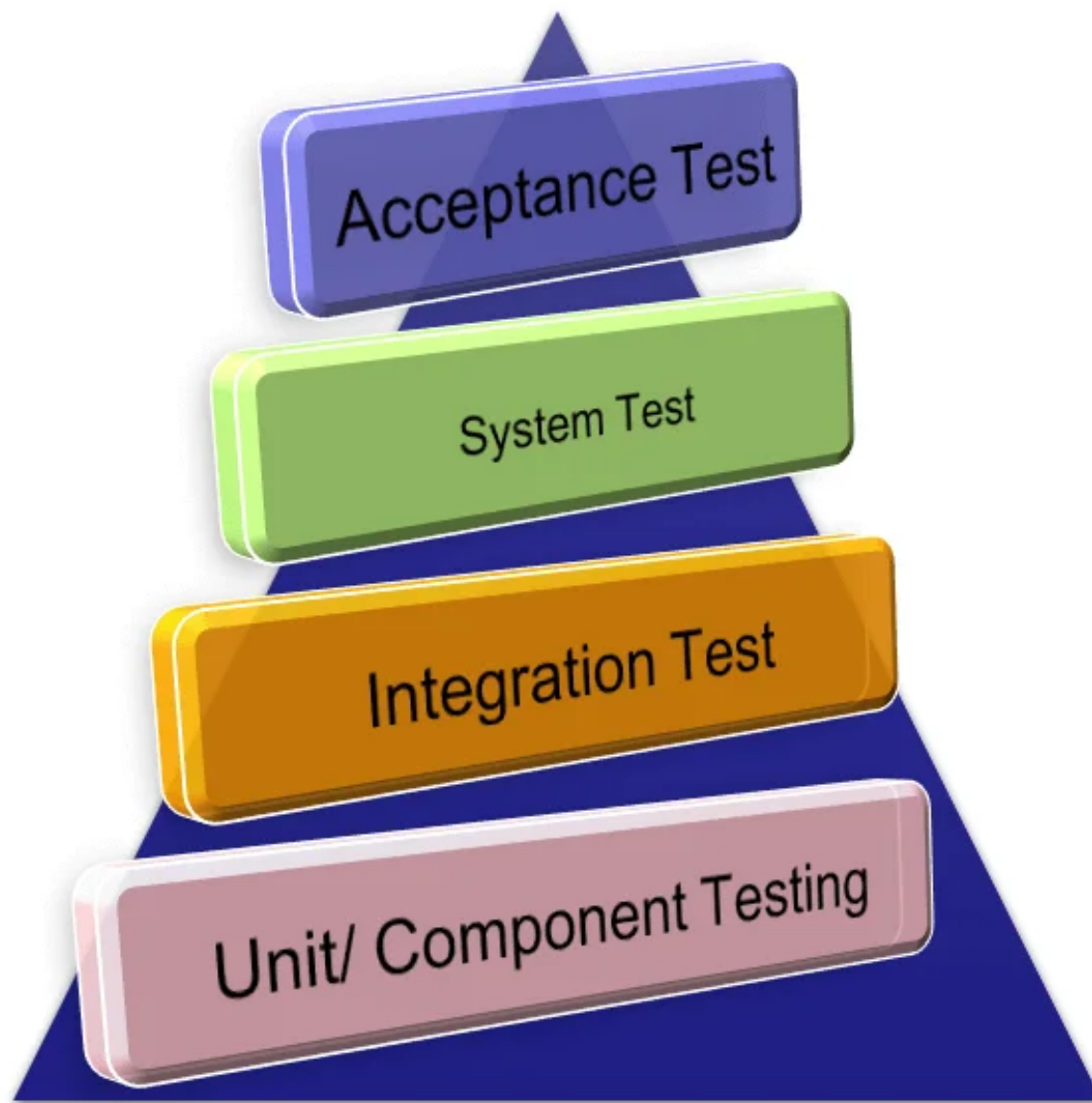
Type	Key	Summary	Assignee	Reporter	P	Status
🔴	TT-344	Fix Manage Slider system in admin dashboard	LS Lokith S	Rob Goodenow	=	STEP 7 - COMPLETED
🔴	TT-343	Add 'Print with prefix' and 'Print with suffix' checkbox options back into user manager --> certifications tab.	LS Lokith S	Rob Goodenow	=	STEP 7 - COMPLETED
🔴	TT-342	Transactions paid online being sent to regional office queue instead of direct billing	LS Lokith S	Rob Goodenow	⚡	STEP 7 - COMPLETED
🟢	TT-341	Changes to /diver_medical_guidance page after completing medical with needs_action flag	BB Balashanthini B	Rob Goodenow	=	STEP 7 - COMPLETED
🟢	TT-340	Project 24-05.1 - Expiration Rating Automation: Course Manager Updates	DV Dhanasekaran V	Rob Goodenow	=	STEP 7 - COMPLETED
🟢	TT-339	Project 3 Medical Waiver button in profile logic changes	BM Bala Sankar M	Rob Goodenow	^	STEP 7 - COMPLETED
🟢	TT-338	Codes & Credit Discount Value: Move to regions manager	RS Revathy S	Rob Goodenow	=	STEP 7 - COMPLETED
🟢	TT-336	Update Receipt Emails/PDFs	BB Balashanthini B	Rob Goodenow	=	STEP 7 - COMPLETED

🔄 Bugs are classified into three categories: High, Medium and low.

🔄 High priority tickets are addressed with the utmost urgency and fixed as soon as possible. We consistently prioritize and fix high priority tickets promptly.

🔄 Medium and low priority tickets are also addressed and fixed consistently within the agreed Service Level Agreement (SLA).

# Comprehensive Testing Process



- 🔄 Developers perform unit testing to ensure the fixes are implemented correctly.
- 🔄 Functionality and regression testing are conducted by the testing team using proper test scripts.
- 🔄 Once testing is completed , the client performs user acceptance testing to validate the fixes.
- 🔄 After successful user acceptance testing, the fixed bugs are deployed to the production environment.

## The Conclusion

1

We have successfully undertaken and executed the IT projects for our client focusing on the maintenance and enhancement of their IT Services.

Throughout the project we have provided excellent resources and demonstrated a deep understanding of the system and successfully implemented various features and enhancements.

2

3

We continue to actively engage in refining the existing legacy system, which includes the Laravel web application, WordPress website, Moodle website and WooCommerce website.

Additionally, as part of our maintenance and service efforts we have addressed and resolved numerous bugs in the legacy system contributing to the smooth operation of our client's IT systems.

4



## Connect With Us

Stay connected with Techno Tackle on [our LinkedIn page](#).

Browse Techno Tackle's website [here](#).

- Sales team contact details

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**Position:** Senior Business Development Manager

**Phone:** 86376 46693

**Email:** sales@technotackle.com

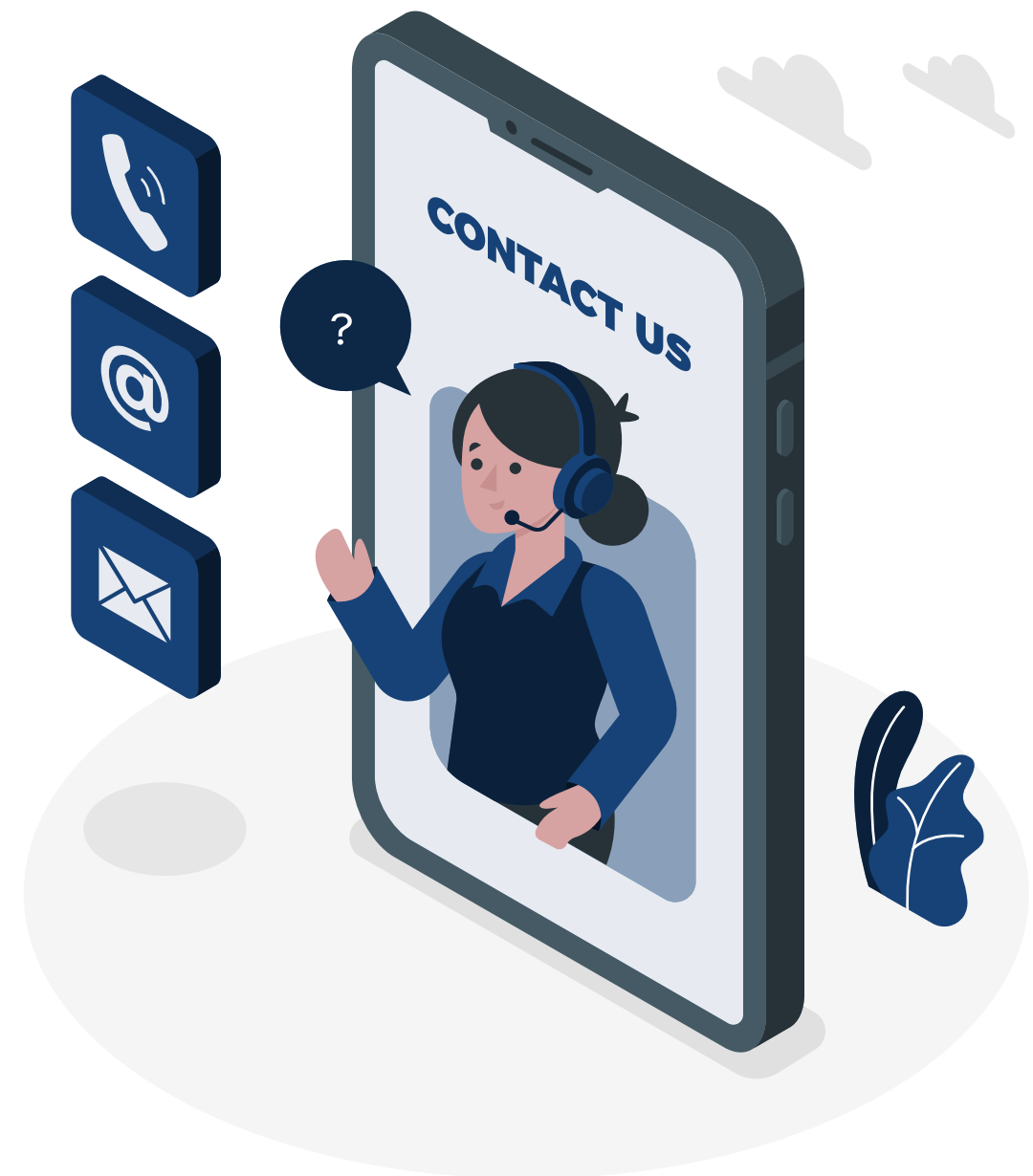
- Founder contact details

**Name:** Balavishnu R

**Position:** Founder&CEO

**Linkedin:** [Founder's LinkedIn profile](#)

**Email:** balavishnu@technotackle.com



*We appreciate your interest in Techno Tackle Software Solutions and look forward to collaborating with you.*