



YHWORKS

CURATED CASE STUDIES

JULY 2023

DINESH GAJJAR
YHWORKS TECH PRIVATE LIMITED
<https://yhworks.com>

YHWorks – A Company Introduction

YHWorks Tech Private Limited is a software service-based company with offices located at Millennium Business Park (Navi Mumbai) and Pune (Shivaji Nagar) – founded by two veteran engineers – each having 20+ years of experience, focusing mainly on health care, education, and innovations.

What do we do?

We help clients to bring their idea to reality. It can be software as a service or platform or an SDK (that can be utilized for other software development) or simple customized solution for their need. In simple words, we are their technology partner.

Strength

We are small team of 12 people (development team), with experience ranging from 1 year to 20 years. We have dedicated QA team, experienced business analyst, a project coordinator, and developers). This team is capable of handling range of software (simple to complex), with quality, on time, every time.

Delivery Mechanism (Process)

The strength comes from how we work internally with set process of software development. Irrespective of client insist or not, we follow scrum agile approach for delivery. It helps to small milestone, it brings clarity, and involve client for early feedback as soon as first sprint ends. With this, if client wants elephant, we deliver elephant and not camel.

Technologies

Curated list only

- Analytics: Google Analytics, mixpanel, firebase, crashlytics, hive
- Automation: Bamboo, Cucumber, Frank, Jenkins, Jmeter, Junit, Pega, Selenium, Github
- Cloud: Amazon Web Services, Docker, Google Cloud Platform, Heroku, Kubernetes, Lambda, NGinx, Redis, Cloud Foundry, Salesforce
- Databases: CouchDB, Coredata, Drift, DynamoDB, Firebase, Hive, MongoDB, Microsoft SQL, MySQL, Postgres, Realm, Room, SQLite
- Language Capabilities: C, C++, VC++, Java, Dart, Python, Perl, Javascript, Typescript
- Mobile Capabilities: Swift, kotlin, Flutter, React Native, Java, Native Scripts, Objective-C, Unity
- Service Integration: WebRTC, Stripe, Plaid, Paypal, Apple Pay, Google Pay, PubNub, One Signal, SendGrid, Contentful, Strapi
- Web Technologies: Angular, HTML, CSS, JS, Node JS, Lodash, React Script, Vue, JQuery, C#, Sails.js, Bootstrap, Ruby on Rails

Clivus Platform for Axon Systems

Client Background

The Axon System is a US-based start-up founded by a senior neurosurgeon mainly focused on providing services to the elderly and patients.

Project Overview

Establish a healthcare information system, focused on providing users, their personal support networks, and care facilities with quick and easy access to key health metrics. These metrics include cognitive data, integrational healthcare management, and social QOL analyzer.

Solution

Created Clivus platform for users (elderly/patients, family members, healthcare facility admins, associated staff) to interact through web and mobile interfaces. The elderly/patients (users) interacted with the platform through the mobile application by doing certain activities (games or questions) on a regular basis. Other users (family members, healthcare facility admins & staff) can review and track the progress. Reporting shows if there is a decline or improvement in cognitive health of the user.

To create the platform, YHWorks provided a complete solution from involvement in inception of the idea to getting it implemented, technology selection, development process approach, defining small and major milestones as deliverables.

Approach and Methodology

YHWorks used mind-map to understand the requirements, and interactions of various roles, defining the association and setting up various entities in the proposed system.

For development, the scrum process is used where each section of the platform is developed phase wise, each phase contained six to eight sprints of three weeks each - two weeks for development, and one week for QA and UAT.

USP (Unique Selling Point)

A unique solution to detect and track the cognitive health of elderly or patient.

Technology Stack

- Cloud services: AWS
- Application Server: NodeJS
- Database: Postgres
- Front-end: Angular
- Mobile application: swift for iPhone app
- Game Development: Unity
- Messaging service: PubNub
- Mail service: SendGrid

PDSA-based Coach-Teacher Feedback Solution

Client Background

Inq PBC Inc is a US-based start-up in the education sector focused on providing services to teachers for better classroom teaching.

Project Overview

The project Inq Loop was based on PDSA (Plan-Do-Study-Act) cycle and focused on improving class teaching techniques of teachers through constant feedback by their coach at each stage of PDSA.

It was a closed-door teaching solution (expandable to school levels) for teachers to complete tasks at each stage such that it reveals their classroom teaching style and method to a coach, who in return, gives feedback for each completed task and stage. The teacher then performs the same task with suggested improvements and submits the task. Once the coach finds the outcome satisfactory, she/he closes the loop.

Solution

Two applications were developed, one for coaches and the other for teachers. An application for the coach was an iPad-based application where a coach can invite the teacher to join the loop (of PDSA). There was an iPhone application for teachers. The teacher accepts an invitation and joins the program.

The teacher and coach complete and reply to the tasks respectively by submitting video, audio, images or text. At each stage, the system notifies the coach or teacher when action is required to be completed from respective individuals.

Approach and Methodology

YHWorks used mind-map to understand the roles, stages, tasks associated at each stage. YHWorks provided configurable PDSA cycle based stages and tasks such that it can be configured as per objective of each institute or school.

For development, the scrum process is used where each sprint was of three weeks – two weeks of development including QA and a week for UAT.

USP (Unique Selling Points)

The solution is in its kind of configurable fit to all PDSA-based cycle teaching feedback programs. It is not only configurable in terms of stages but extended to define number of tasks at each stage, type of input (media and/or texts) expected at each task, grouping of the associated tasks.

Technology Stack Used

- Cloud services: AWS
- Application Server: NodeJS
- Database: Postgres
- Front-end: Angular
- Mobile application: swift for iPhone/iPad app
- Messaging service: PubNub

Everywhere Database SDK for Interlock Labs

Client Background

The Interlock Labs is a Canadian based start-up which mainly focuses on providing the Offline-first and Mobile-first solutions.

Project Overview

The SDK is for the transaction-based data synchronization system and helps build the applications to reflect updates with the opportunistic synchronization of the data with the server and keep working with the local copy of the data.

Solution Provided

The SDK works with backend server which provides the database synchronization across multiple peers. The database synchronization is using databases with high-speed writes to ensure the multiple transactions can be written to the database without affecting the performance. SDK internally manages records with end-to-end encryption.

SDK governs the Encryption algorithms to work with Elliptic Curve cryptography as well as AES-128/256 based encryption. SDK also provides opportunistic synchronization with Server. SDK is written in Dart for Flutter and optimized to use on-device encryption and decryption. The transactions are uniquely recorded and timestamped to execute in the right sequence even if they come from multiple devices.

Approach & Methodology

For development we used the Scrum based approach to address this problem incrementally as the problem we were addressing was way more complex. It was a month-wise sprint with 3 weeks of development and QA followed by 1 week of user acceptance and fixes.

USP (Unique Selling Point)

An SDK which will enable the Mobile application development to use the servers which abstracts the application specific models to be synchronized and allow application to function without internet connectivity.

Technologies Used

- Cloud services: AWS
- Application Server: Dart
- Database: Hive
- Mobile application: Flutter

HealthRobin Platform

Client Background

The Pintarraxo is a Bangalore based set-up who focused on building the bidding platform as a marketplace for the healthcare services to be hired for taking care of the patient.

Project Overview

HealthRobin is a marketplace for healthcare services. HealthRobin connects customers with trusted health professionals for all medical needs. Be it getting a physiotherapist, nursing care, trained attendant at the comfort of one's home or recuperating in a hospital, HealthRobin is the one place stop for all healthcare needs.

Solution Provided

For Customers, YHWorks built HealthRobin app to find healthcare providers by submitting a service request, receiving quotations from providers, choosing a provider based on experience and cost, and once a provider has been chosen, interacting directly with the provider.

YHWorks also built the HealthRobin Partner app which enables medical professionals to find new prospects and submit personalized quotations. To draw clients, professionals might develop and improve their profiles. Users of the Partner App must submit their documentation for review. As soon as their profile is validated, they begin to receive fresh leads.

Approach & Methodology

For development we used Scrum as the platform was built with learnings from phase wise implementation and usage in the field. It was a three-week sprint with two weeks of active development and QA followed by 1 week of user acceptance and fixes.

USP (Unique Selling Point)

It is a marketplace built from the ground up with a bidding facility along with real-time communication with the healthcare service provider.

Technologies Used

- Cloud services: Heroku
- Application Server: NodeJS
- Front-End: Angular
- Database: Firebase
- Mobile applications: Kotlin + Java - (Native Android) app
- Realtime Messaging & Chat: PubNub

Critical Care Service Platform

Client Background

The client is a leading NGO in India, with a mission “to be volunteers in the true sense; and become facilitators in building healthy, self-reliant, knowledgeable, discrimination-free society with a modern outlook, while maintaining rich cultural heritage and ageless traditional values”.

Problem Statement

This NGO wanted a solution to provide critical care service (mainly blood requirement fulfilment) to hospitalized patients, starting service in Mumbai, and later expanding to other areas of the country.

Solution Provided

YHWorks built an end-to-end solution for raising blood requests, connecting to healthcare services, and publishing important healthcare articles and topics. For blood requests, the facilitates user to raise the blood request for a patient, then notify nearby donors (with matching profiles) of the need and share the location and patient details for further communication and reaching out. The solution takes care of not sending notifications to donors who have recently donated blood.

The solution has the following key features for client and mobile users:

1. Ability to raise, track, and close blood requests by end-user (through mobile) or by the support team (through dashboard)
2. Two-click escalation of open blood requests for more donors.
3. Ability to create a family and add members for each user, so in case of emergency blood request can be tracked with four clicks.
4. On-hand facility (directory) to call other medical services (ambulance, blood bank, hospitals, medical equipment etc.)
5. Register donors through multiple interfaces (mobile, web dashboard).

Approach & Methodology

For development, we used Scrum as the platform was built with learnings from phase-wise implementation and usage in the field. It was a three-week sprint with two weeks of active development and QA followed by 1 week of user acceptance and fixes.

USP (Unique Selling Point)

It is a service platform that facilitates meeting the need of blood requests raised for a patient and connecting with donors, as well as tracking and follow-up for open requests.

Technologies Used

- Cloud services: Heroku
- Application Server: NodeJS, Sails
- Front-End: Angular
- Database: MySQL, Firebase
- Mobile applications: Flutter

- Target Platforms: iOS and Android
- Server: Nginx
- Content Management System: WordPress



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WIP Tracking for Manufacturing Unit

Client Background

The client is a leading automobile manufacturing company in India and wanted a solution for a unit based in Karnataka (southern part of India).

Problem Statement

The client wanted to track and create automated information flow in the manufacturing unit, so they get better visibility with respect to man, machine, method, and material. The longer goal is to fine-tune the operations and take proactive actions and preventive maintenance based on predictive analytics reports.

Solution Provided

After analyzing the existing system, we established a solution which injected into their existing workflow. With the provided solution, the client is now having the following system in place:

- Track WIP material
- Role-based Control Panel (and dashboard) to have access to various masters (machine, employees, part numbers, floor area details where machines are located, Kanban locations, raw material masters, logistics masters)
- Reports for authority on WIP job, finished job, machines status, machine health report, WIP internal material, periodical automated reports for job completed per shift, day, week and month.
- Dashboard for machines, logistics, reports, real-time status of WIP jobs, scheduling, operators, etc.
- Integrated existing ERP (SAP) for finished goods details and submitted the details of the finished job.
- Real-time tracking of internal material movement via HHT (Hand-Held Terminal)
- Real-time maintenance alert through email and SMS

Approach & Methodology

For development, we used Scrum as the platform was built with learnings from phase-wise implementation and usage in the field. It was a three-week sprint with two weeks of active development and QA followed by 1 week of user acceptance and fixes.

USP (Unique Selling Point)

It is a customized solution based on the client's need to address their challenges with respect to bringing a systematic process to support ongoing production and have visibility at every stage and level.

Technologies Used

- System: Microsoft Server
- Application Server: NodeJS
- Front-End: Angular
- Database: Microsoft SQL
- Mobile application: Kotlin + Java - (Native Android) app for HHT
- Mail Service: In-house service of client
- SMS Service: In-house service of client

FIGMENT Rooms

Client Background

FIGMENT Project is a US-based non-profit organization, spread across the cities, with a mission statement - “to build community through the participatory arts, inspiring personal and social transformation by creating cultural events and experiences in a spirit of participation and inclusion”. It is running activities since 2007 across the cities in USA.

Problem Statement

FIGMENT Project wanted to establish a virtual world of exhibition where artists and participants join and contribute remotely. Similar to off-line exhibitions, on virtual exhibitions should also be divided in zones, exhibition rooms, and lobbies.

Solution Provided

For FIGMENT Project, YHWorks built web application (and also portable as windows and Mac app) that each exhibition setup is configurable from another admin panel where the support team any time can create a venue, multiple rooms, lobbies and appoint artist to room. So, who visit (online) this exhibition and rooms specifically, knows about artist, time of performance, and can join the room as soon as artist start the activities.

Some of the highlights of the system are:

- Highly configurable exhibition/events including number of rooms, artists, time for each activity in a room.
- Cross-platform development (single source-code) so porting is easy as web or Mac or windows app.
- A group and private calls among users in the exhibition
- A group and private chat for users in room or waiting in lobby.

Approach & Methodology

For development we used Scrum as the platform was built with learnings from phase wise implementation and usage in the field. It was a four-week sprint with three weeks of active development and QA followed by 1 week of user acceptance and fixes.

USP (Unique Selling Point)

It is a virtual exhibition center for events where artist and participants meet virtually and share the common objective of freedom of expression and ideas.

Technologies Used

- Cloud services: AWS (S3, app server)
- Application Server: NodeJS
- Front-End: Flutter (Web)
- Content Management Systems: STRAPI
- Authorization: Auth0
- Realtime Messaging and Chat: PubNub
- Video Service: WebRTC



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