ANTARES TECH

IN THE HEART OF THINGS

COMPANY PROFILE

INTRODUCTION

We are a company of, and by engineers, focused on crafting world class software products. We have a collective and deep experience in Video Streaming and Real Time Communications technologies (WebRTC). We also specialise in Web, Mobile and Cloud based Applications (SaaS).

Some of the verticals we operate in include:

- AUDIO/VIDEO (AV) INDUSTRY
- PODCASTS ECOSYSTEM
- EDUCATION (ED-TECH)
- GEO-TRACKING, LOGISTICS & DATA REPORTING

With headquarters in Noida, India, the company was incorporated with a vision to build a lean outfit of designers and engineers to deliver high value, non-trivial solutions through focused technological expertise.

PRODUCT DEVELOPMENT SERVICES

Is our preferred model of engagement. It is an evolution over the more traditional outsourcing model and which results in a more mature and collaborative product development.

Antares engages with the customers at the earliest stages (ideation), providing value propositions at multiple levels, including requirements, core architecture, choice of technologies all the way to its going live.

At Antares Tech, we routinely take an idea, perhaps scribbled on small piece of paper, to its beautiful and logical conclusion.

Repeatedly.

MICRO-SERVICES FRAMEWORK

Our soon to be open sourced Micro-Services Framework (SNAG) provides a time tested platform for Web & Mobile Applications and powers almost all our offerings to our clients, and provides a *rugged, matured, scalable and distributed* framework from day one.

RTC FRAMEWORK

Over years of building various use cases for Real Time Web & Mobile applications, we have developed our in-house, generic, *RTC Framework* for the common use cases. Which means, quicker time to market for the customer.

If your product requires a sizeable customer support team, then it's likely that its not engineered well.

- Developers Maxim

With pre-built frameworks for various use cases, Antares enables quick time to market for its customers.

VIRTUAL CLASSROOM OR TRAINING

This framework is a direct fit for a remote teaching or training use case, with high levels of interactivity, including audio/video, chat, real-time interactive whiteboard & documents/presentation sharing. Plugin architecture to add custom functionality.

SEMINARS OR WEBINARS

This use case differs from the Training scenario in that the solution is cost optimised for large audience size and a limited set of speakers/ presenters. The additional channels of interaction (chat, whiteboard etc.) are also available in this mode. This mode has higher audio/ video latencies, which are acceptable for a seminar type of use case.

It is possible to have a hybrid of Training + Seminar scenario too, supporting a small group of presenters.

With pre-built frameworks for various use cases, Antares enables quick time to market for its customers.

HELPDESK OR CONTACT CENTRES

Tailor-made for Helpdesk or Contact Center type use cases, with features like Skill-based routing, Prioritisation of agents, Triggers based on wait time, Opening hours etc. With a platform based on open source technologies, it is possible to customise the solution to any business requirements. Easy integration with ERP/CRM implementations.

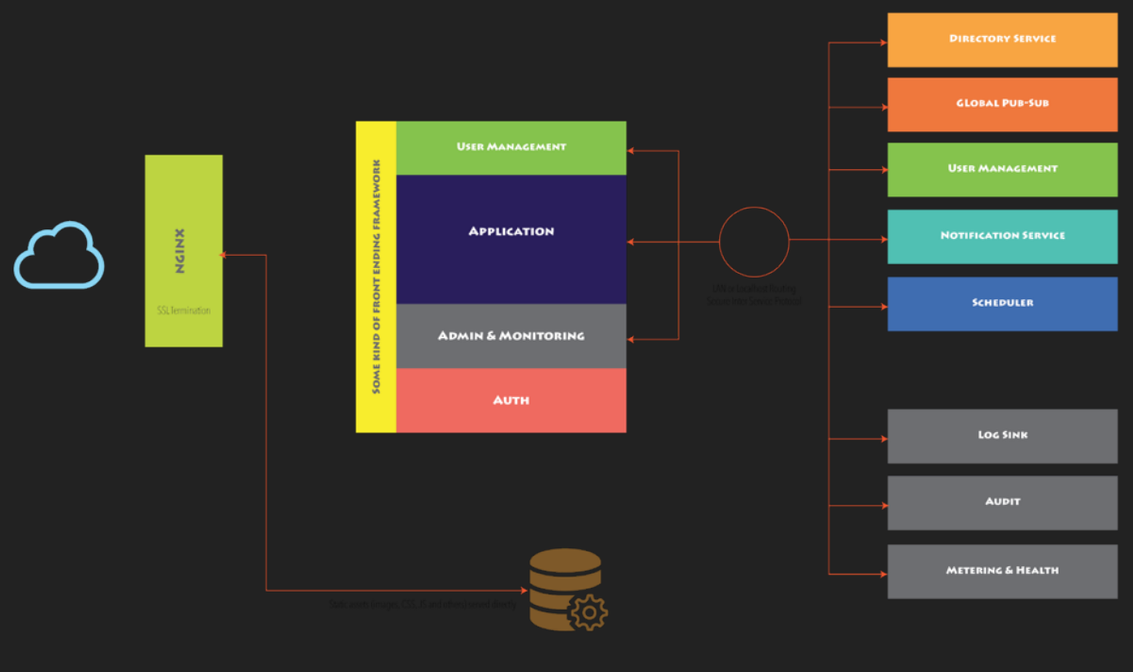
MEETINGS, APPOINTMENTS OR CONSULTATIONS

This framework fits the use cases for enterprises, online consultancy services in medical, wealth management, psychiatry, counselling etc. Due to the use of open source technologies, it affords easy integration with existing ERP implementations.

MICRO-SERVICES FRAMEWORK

FRAMEWORK FOR BUILDING SCALABLE APPS

Our, soon to be open soured, Micro-services Framework, forms the solid bed rock of many live apps running on the Internet today. With tens of thousands of hours of running and evolution, SNAG is a time tested and proven framework for *robust* applications.



CLOUD FRIENDLY

Runs on Google Cloud, Amazon, Azure or captive data centres

DISTRIBUTED DEPLOYMENT

Enables single-machine deployments as well as large scale distributed deployments potentially spanning multiple data-centres

HORIZONTAL SCALING & HA

With careful separation of concerns implemented via carefully designed micro-services, it affords a wide horizontal scaling & High Availability

SSO & AUTHENTICATION

Comes with a built-in and secure Local Authentication (Oauth 2.0) and a framework for stackable SSO, which enables extremely quick integration to any enterprise SSO.

SERVICE DISCOVERY

Automatic Service Discovery & Failover

USER MANAGEMENT

Built-in User Management, with SHA512 encrypted passwords and complete with a React based UI management console.

FLEXIBLE ROLE & PERMISSIONS

Incorporates a very flexible, tags based Roles & Permissions framework, which handles organisation hierarchies beautifully

DASHBOARDS & REPORTING

Built-in framework for Dashboards & Reporting, which is easily extendable to custom use cases

TECHNOLOGIES USED

ReactJS/JSX, Node.JS, Nats.IO, MongoDB, REDIS

CLIENTS & PARTNERS

biamp.

DOLBY DIGITAL

Adobe

tokbox

paytm

WizIQ education.online

auxbus

aggio

Tallyfy

TUTELA

ANTARES PRODUCT DEVELOPMENT SERVICES

WEB APPLICATIONS

Antares Tech is a boutique Web Applications development company. We create web applications that not only perform well, but have an amazing user experience. With our soon to be open sourced MicroServices Framework, we are able to build applications that scale gracefully, and are able to handle traffic as your application starts attracting more users.

Technologies

HTML/CSS/JavaScript

jQuery

ReactJS

AngularJS

NodeJS

ExpressJS

Sass/Less

Bootstrap

Java

Docker

REDIS

Webpack

Nats.IO

Linux

SOLUTIONS

ETL & REPORTING

Data Pumps and React based Reporting frameworks for handling large data.

REAL TIME INTERACTIVE APPLICATIONS

With solutions for Virtual Classrooms, Remote trainings, Online Meetings, Live recordings, Website-embedded Helpdesk and much more

TEST PREP & ONLINE TESTS

Question banks, with dynamically generated, highly customisable online exams, automatic evaluation and much more

GEO-LOCATION & LOGISTICS SOLUTIONS

Real Time location tracking and Enterprise goods life cycle management

SAAS AND CLOUD BASED APPLICATIONS

With the Cloud becoming the new desktop and the modern service delivery platform, our engineering team is well experienced with the Cloud environment. Be it Amazon, Azure or Google Cloud, we've delivered well performant applications on all these platforms.

With our in-depth knowledge of these platforms, we are able leverage various cloud services to accelerate development and achieve a faster time to market (TMM).

Creating SaaS products is our bread and butter. With continuous experience of delivering successful SaaS products over a period of time, our expertise is among the best in the world.

Google Cloud

AWS

Microsoft Azure

SOLUTIONS

REPORTING & DATA VISUALISATION

Scalable and flexible reporting platform for an AgTech startup to enable businesses to slice and dice and visualise data to get actionable information.

LIVE VIRTUAL CLASSROOM

Highly scalable Virtual Classroom, with Audio/Video, Chat, Document & Screen Sharing, Whiteboard, Server side recording and much more done for a EdTech Startup

ETL & REPORTING SOLUTION

Scalable, extendable and fast ETL solution for huge amounts of data generated in real time, coupled with a React based Reporting solution for quick report turn-arounds.

MOBILITY SERVICES

At Antares, we have immense experience in creating Mobile Applications for iOS and Android devices and multiple smartphone platforms. Our engineers are equally comfortable creating native or hybrid applications, with a robust back to support the app.

Technologies

iOS

android

Framework7

React Native

Swift

HTML/CSS/JavaScript

Java

A SELECTION OF THE WORKS

LIVE MICROPHONE FOR AUDIENCE

An iOS/Android application suite which enables live audience to interact in events in real time using just their own phone, making microphones redundant.

DRIVING SCORE (TELEMATICS)

An Android application that scores your driving skills as you drive, using the data from all the available sensors including the gyro, GPS etc.

FIELD VETERINARIAN

An iOS/Android application to enable the veterinarians to diagnose farm animals in the field, with offline and online operations.

MOTOR SELF INSPECTION APP

A video self inspection solution for Insurance companies which allows the user to conduct his own survey of the damaged vehicle, and submit the application for insurance claim

TIME AND MATERIALS (T&M)

Most real requirements evolve with time, and the start getting more focused as the first deliverables start to materialise. With Agile methodology and Bias For Action at the core of modern, progressive enterprises, this pricing model is a perfect fit.

Antares provides the full spectrum of skill sets required to successfully deliver a project at standard and reasonable hourly rates.

NOT-TO-EXCEED

For certain types of projects, a Not-To-Exceed type contract can be achieved, which limits the maximum price to be paid by the customer. Usually if the requirements are reasonably clear and the risks are manageable, this gives our clients a peace of mind.

FIXED PRICE

The fixed price model is ideal for small and medium level projects with clear and well-defined requirements. But, as per the agreed contract, any change in the scope would result in a change in the price.

Fixed price models allow customers to pay a fixed price for a project that is agreed upon by both the parties. The fixed price could be split and paid on milestones. In this model, it is very important to discuss everything and make an estimation of the appropriate cost of the project at the very beginning.

CHANGE REQUESTS

In this model, any change in requirements post the agreement is treated as a Change Request. A CR is priced at the standard T&M rates.

LEADERSHIP

AVINASH BHATIA

FOUNDER & CEO

An IIT Delhi graduate with 22+ years of experience in Networking, Telecommunications, Multimedia and Web. From working on the world's first touch screens and hardware accelerators to fussing over CSS, he has seen it all. Hands on, and believing in leading from the trenches, he is a technologist at the core.

Otherwise, would have been a metal guitarist, riffing on Sanskrit shlokas

PRADEEPTA SHARMA

CO-FOUNDER & CPO

An NIT, IIM grad with an itch to create beautiful & sophisticated products, with 12 years in Finance, Education (Ed-Tech) and Casino gaming domains. With an innate artistic sense and an expertise in business processes, he blends his various talents to design intuitive and highly functional products.

Otherwise would have been weaving tales on the banks of the Brahmaputra.

SANJIT DAS

CO-FOUNDER, BUSINESS & STRATEGY

An NIT, IBS grad with 15 years of experience across a mélange of industries. A growth hacker and a people's person looking to empower social projects by creating innovative and community focused solutions.

Otherwise would have been a restauranteur and culinary artist

. . . AND A FEW MORE THINGS . . .

HIRING

We recruit exclusively from the Tier A colleges only. The recruits undergo a gruelling multi-round interviews where we assess the candidate from multiple angles including analytical skills, problem solving, creative skills and communication.

We hire few but we hire the best!

CULTURE

We are traditionalists. We believe that strong fundamentals and a no-shortcut approach is the best way to move forward. This is a core philosophy at work in our culture which trickles down to our deliverables.

Our mentorship programs ensure that these values are propagated and imbibed at all levels.

We also encourage good old common sense!

SMALL IS BEAUTIFUL

Being a small organisation helps pick and choose the right projects and allows us to concentrate our creative abilities without distractions.

That means our best brains are thinking about your product!

QUEST

Antares Tech's quest is to do meaningful work and make beautiful things.

Growth is not a target. It's just an inevitable side effect.

Our very philosophy impels us to produce high quality products!

CASE STUDIES

CASE STUDY: BIAMP. TURN YOUR PHONE INTO A MIC

PROFILE

Founded in 1976, **Biamp** is a leading provider of innovative, networked media systems that power the world's most sophisticated audio/video installations.

CROWD MICS

biamp.

Customer Requirement

Create a product which turns your cell phone into a microphone. Must have Ultra-low mouth to ear latency (~40-50ms). Create an embedded device with WebRTC support which can drive the venue speakers. And finally, Mobile apps for Android & iPhone, which the participating audience will use to talk into.

How we did it

- Created a Linux based embedded device firmware with WebRTC support (C/C++, Node.JS)
- Hacked the source code of WebRTC to remove latency on the client (mobile app) side
- The team worked with 0 holidays for 1.5 months to reduce the natural minimum latency of a WebRTC solution from around 400ms down to 40-50ms.
- The product is a strategic product for our client, and has been released in the market as **CrowdMics** *(https://www.crowdmics.com)*

Technologies used

- ReactJS & ReactNative
- Node.JS
- C/C++, Gstreamer, FFMPEG, Linux, ALSA, JACK

PROFILE

The customer is a start-up, with a vision to develop technology that brings clarity to speech and makes audio content creation accessible to the world.

auxbus

Customer Requirement

Create a web based podcast solution which allows remote, real-time participation. Be able to create pristine, noise free recordings of the conversation. Keep the run time costs low.

Solution

Our team came up with a very interesting solution to achieve high quality audio production even for participants who joined remotely via WebRTC. Given our generic and powerful RTC Platform, we were able to quickly deliver a WebRTC based remote participation application.

Given our exposure and knowledge of audio, we were able to provide features like clipping detection, compression and AGC, VU Meters, mixing of multitrack audio etc, all from within a browser

Technologies used

ReactJS, Node.JS, WebRTC, FFMPEG, Linux

PROFILE

Boehringer Ingelheim researches, develops, and manufactures pharmaceutical products, as well as offers prescription medicines and consumer health care products for human and animal health. Boehringer Ingelheim serves clients worldwide.

Boehringer Ingelheim

Customer Requirement

A mobile diagnostic application which can digitalise and automate the process of sample shipping and form submissions for veterinarians. The field personnel should be able to create, submit and print a submission form. It should be able to interface with existing 3rd party labs. The application should work in offline, field situations.

Solution

An offline-first mobile app which has a workflow for creating and submitting sample submission forms. A state management library is used within the app which takes care of the form submissions. The app persists the information, even if offline. Overall, status updating of the form is carried out within the workflow viz. pending or approved. The prominent challenge was to keep the offline submitted forms intact and updated with current status from server.

Technologies used

React Native, Node.JS, MongoDB, REDIS, Linux

PROFILE

The customer is an established and well known brand, providing online education platform that connects educators and learners to deliver synchronous and asynchronous courses.

WizIQ

SITUATION

For their Virtual Classroom Product, stuck with a 7 year investment on

- Legacy (Flash) Technology for UI
- Legacy (RTMP) Streaming Technology
- Bad (virtually non-existent) architecture and design
- Team with outdated skill sets

Resulting in

- Extremely long cycles for new feature additions
- Unusually high number of bugs discovered in the field
- Bad software performance
- Impossible to incorporate features like SSO or multi-tenancy
- Bad customer experience leading to churn
- Competition starting late and yet able to overtake on feature parity

OUR STRATEGY

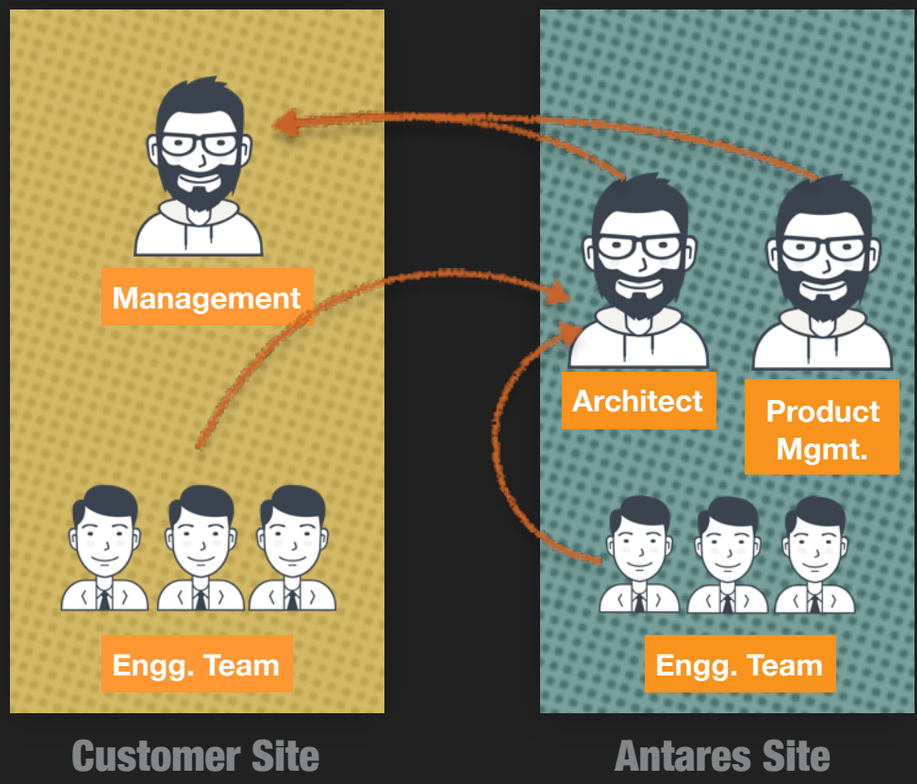
Architecture

- Rework the entire architecture to make it completely Cloud based
- Designed as micro-services for flexibility and scale
- Completely revamped the base technologies and moved to
  - WebRTC (using our proprietary RTC platform)
  - Node.JS
  - HTML5/Javascript

Process

- Move the team to Agile/SCRUM
- Re-training of the client's existing team to current technologies

ENGAGEMENT MODEL



- Offsite and onsite team working in tandem
- Engineering and Product lead provided by Antares
- Team synchronisation using frequent tele-meetings

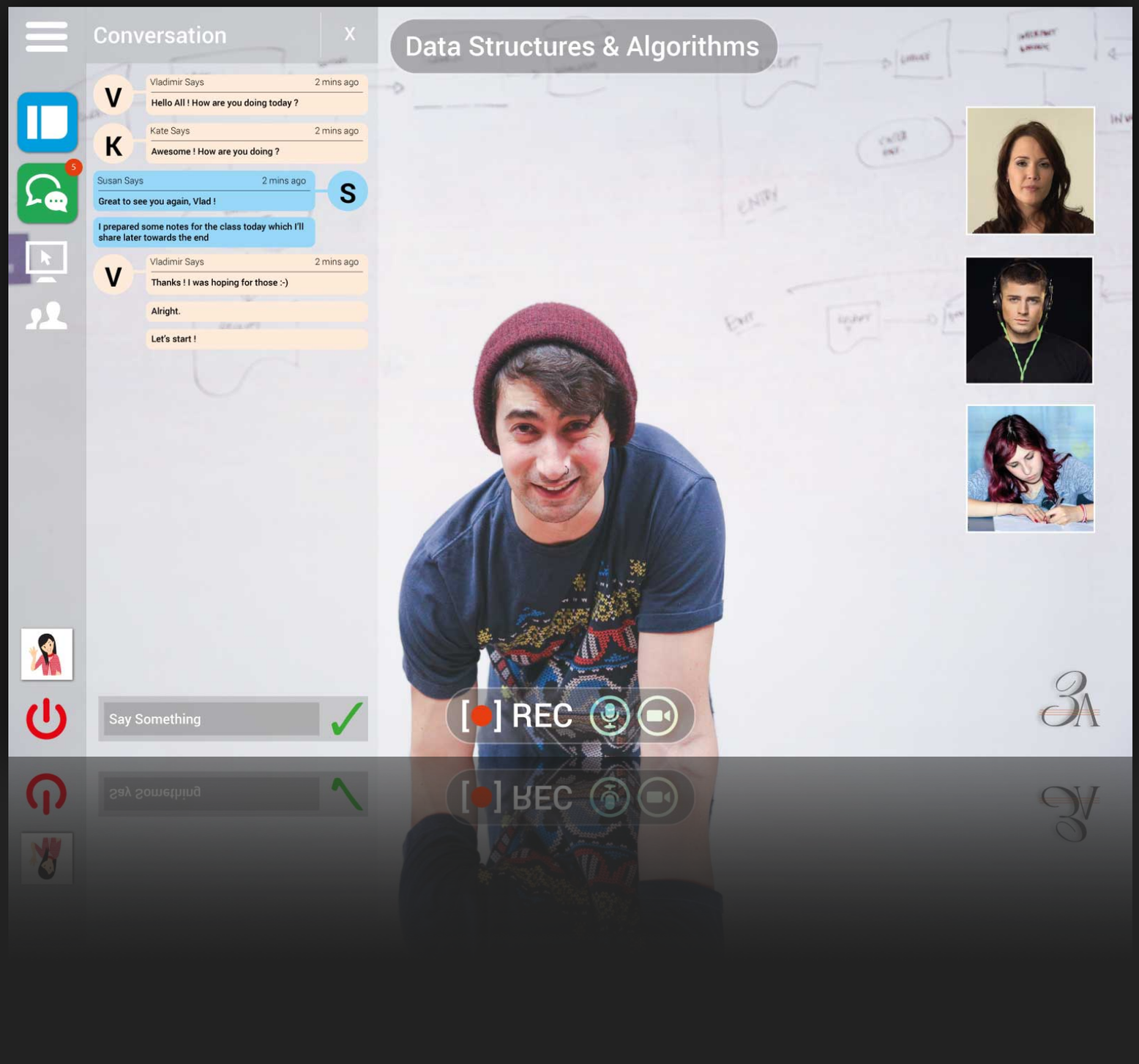
THE DELIVERABLES

Product

- A beautiful and highly performant Virtual Classroom Solution
- Is actually a platform with run-time addition of applications like whiteboard, shared content, shared media player. Future proof!
- Stackable SSO support
- White labelling via pure configuration
- Multi-tenancy and horizontally infinitely scalable

Innovations

- Server-side recording of the entire session including live video and chat, shared content and whiteboards etc.
- Dynamic Proxy with REST-based routing addition feature for dynamic micro-services



KEY FEATURES

Plugin architecture

The app was architected in a way where all the key functionalities are added via extendable plugins. Thus, the audio/video, chat, white board, shared editor etc all are plugins to the main app. This enabled an infinite possibilities for adding other functionalities (for example, an interactive card game for teaching purposes etc).

Whitelabelling

Designed to be fully white labelled, with configuration options to customise various parameters according to the customer's taste.

Shared Whiteboard

Comes pre-bundled with a Shared Whiteboard, with excellent response time even when the class strength is in 100s.

Code Editor

Comes pre-bundled with a Shared Code Editor (currently supporting Javascript, HTML & CSS) for tuitions geared towards teaching programming languages.

Shared Content

This plugin enabled one to share content during the session, by uploading content in a PPT/Word/Excel/Image form and converting it, on the fly, to HTML5. The content is then shared with all the participants, and as the presenter scrolls through the content the view across all the participants is synchronised, including the position of his/her mouse pointer. Since this requires very minimal bandwidth, it works well even on low bandwidth networks.

Audio Video interaction

This plugin enables Audio/Video or pure Audio interaction and also supports Screen-share, with the ability to either share only a specific application or the entire screen.

Single Sign on (SSO)

The app was designed for extendable SSO support and comes bundled with SSO stack to support most of the standard authentication protocols, like SAML, OAuth2.0 etc. Easily customisable to Enterprise specific SSOs.

Low bandwidth behaviour

The solution falls back to pure audio for participants who are operating in a low

KEY FEATURES

Server Side Recording

The innovative Server Side recording preserves the entire session, as seen by the participants (including chats and all other interactions) and makes it available via an 1080p (Full HD) Video file. The recording consumes no resources on the presenter side.

Attendance & Insights

Comes pre-bundled with attendance & insights plugin providing various Dashboards.

Multiple Layouts

The app supports multiple layout options, including Full Screen Video view (with smaller secondary videos), Tiled Video View to look at all participants in one glance, Work Area View to see other shared resources like Content etc. The Foldable Chat and Attendees Widget can overlay on any of these layouts, providing layered view of the session.

Horizontally Scalable

The architecture of the application allows it to potentially scale to any number of concurrent

CASE STUDY: NIMBLE. TELEMATICS APP

CUSTOMER REQUIREMENT

A telematics app that sits on the user's phone and helps decipher and reward driving behaviour as one drives on the road. It works off of mobile sensors, and gives the user a drive score for every completed ride, and an overall score. It comes with a leaderboard for a sense of community and this social aspect engenders competitiveness.

SOLUTION

- An Android app to promote safe driving
- User self registration and login
- User profile management with vehicle details
- Detailed drive feedback based on sensor data
- Discipline score – based on hard acceleration and braking
- Focus score – based on phone usage during drive
- Carbon footprint
- Map of drive
- Local and Global leaderboards
- Invite friends, and share to social media

CASE STUDY: AGGIO. DATA VISUALISATION & REPORTING

PROFILE

The customer is a US based startup who aspires to Transform the Agriculture Industry by developing a specialised SaaS business platform which turns data into action.

CUSTOMER REQUIREMENT

For their Reports and Visualisation needs

- They based their complete solution on Tableau
- While Tableau is a powerful BI tool, it's reporting and visualisation has inherent limitations

Issues

- Extremely bulky reports, resulting in long loading times
- Hard to integrate cleanly with other micro-services
- Hard to add and develop new features, such as subscription of views
- Bad customer experience leading to churn
- In premises hosting leading to maintenance and scale issues

Requirement

- Develop a reporting and visualisation platform to be exposed as a SaaS

OUR STRATEGY

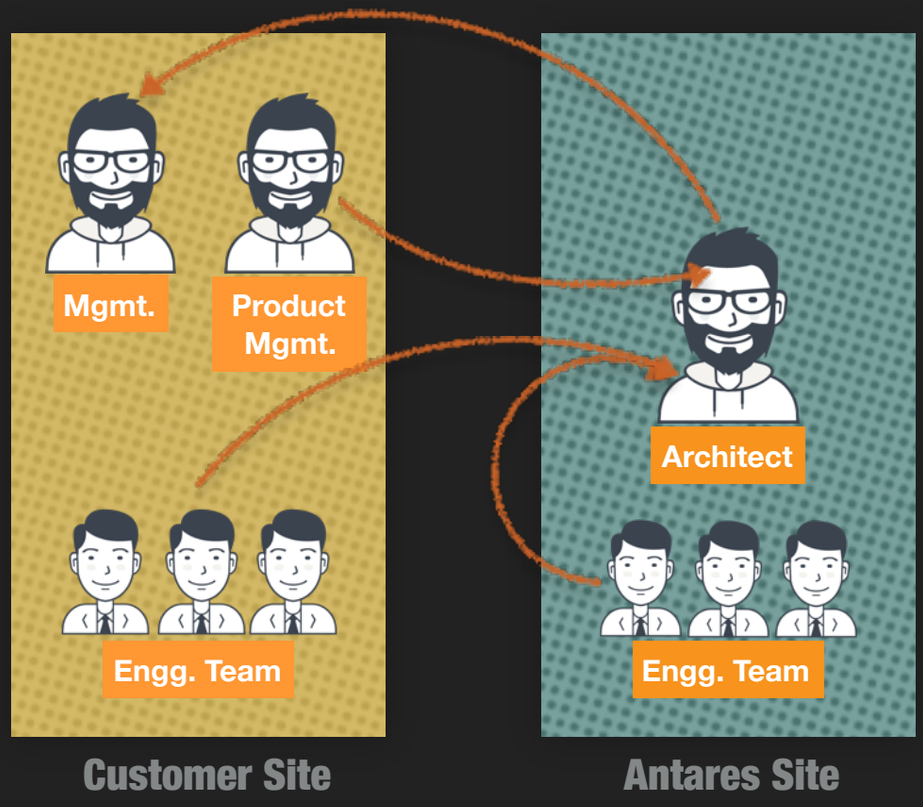
ARCHITECTURE

- Rather than create individual reports, we created a reporting platform
- Hosted as Cloud based SaaS
- Designed as micro-services for flexibility and scale
- Separated authentication from core to enable stacked SSOs
- Divided the data processing across the back and front end, with a full MVC running at the UI
- Technologies used
  - WebRTC
  - Node.JS
  - HTML5/Javascript

Process

- Move the team to Agile/SCRUM
- Training of the client's existing team to current technologies and new architecture

ENGAGEMENT MODEL



- Offsite and onsite team working in tandem
- Engineering lead provided by Antares
- Requirements & Product management shared
- Team synchronisation using frequent tele-meetings

THE DELIVERABLES

Product

- A interactive and highly performant Reporting solution which enables beautifully animated Visualisations
- A full pluggable library of visuals to support the interpretation of data
- Enterprise ready with SSOs and multi tenancy
- Highly granular Groups and Permissions framework
- A high fidelity Print to PDF solution which faithfully renders the text and the graphics in a PDF file
- A framework to provide quick turn around time for new reports
- White labelling via pure configuration
- Horizontally infinitely scalable

CASE STUDY: TRIRINSE. LOGISTICS SOLUTION

PROFILE

The customer is a US based environmental contractor founded in 1981 that specialises in container disposal of all sizes, hazardous waste removal, scrap tire abatement, above and underground tank cleaning/ removal, the recycling of plastic and steel containers, formulation/packaging services, metal bin resurfacing, and container fleet management.

SITUATION

For their Logistics and Scheduling needs

- They had no solution – tracking was manual!
- Spreadsheets were being maintained by various departments to keep track of shipments

Issues

- Optimal logistical throughput remained a distant dream
- Quality and time both took a beating – focus averted from those parts that merited more attention

Requirement

- Develop a logistics solution from scratch, which customers can use online from various devices, to schedule and track shipments
- The solution should afford reporting abilities for track-ability

OUR STRATEGY

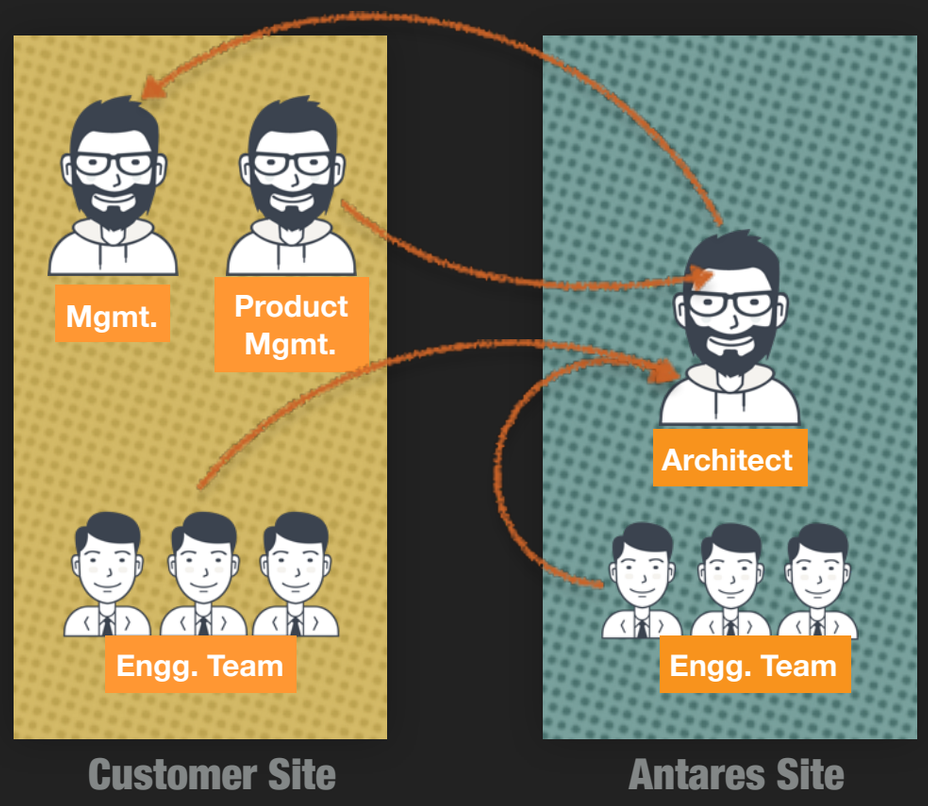
Architecture

- Instead of an application to address the specific scheduling need, we designed a re-usable scheduling application with an Outlook like interface
- Rich set of views for all kinds of personal preferences
- A wide set of reports to track various data points and KPIs
- Technologies used
  - MongoDB
  - Node.JS
  - HTML/CSS/JADE/LESS

Process

- Agile/Scrum with weekly iterations, for quick feedback and effective incorporation
- Training end users could proceed side-by-side with development; they were closely involved throughout scoping and execution

ENGAGEMENT MODEL



- Offsite and onsite team working in tandem
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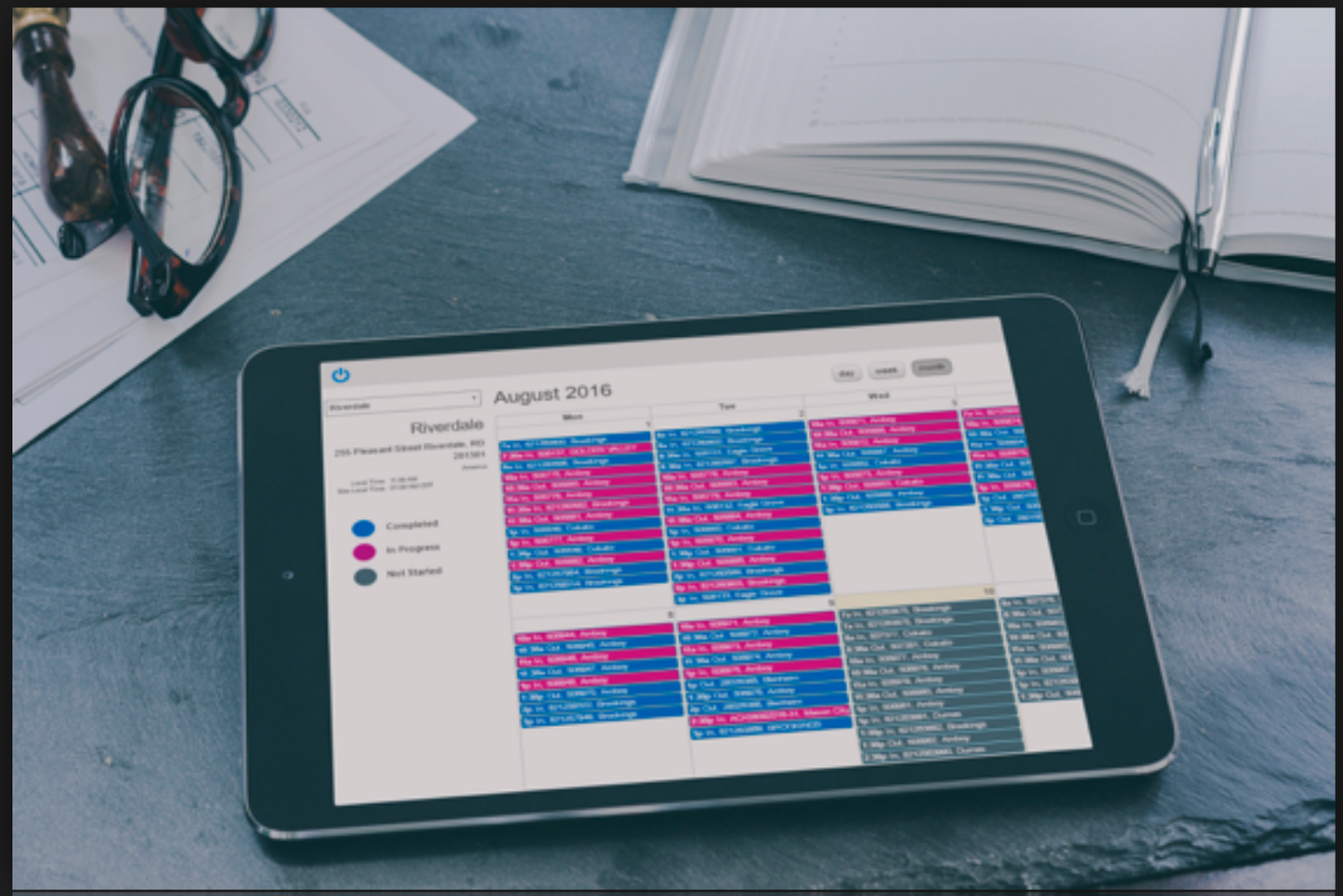
THE DELIVERABLES

Product

- A complete solution for operations management and logistics
- An exquisitely designed interactive calendar, operable purely from the browser on multitude of devices
- Paperless, pure software solution for tracking goods, damage inspection, signing etc. via Bar code on handheld devices
- Complete track-ability of historical data



…and Epilogue

This solution was reused for internal logistics of the same customer. For this adoption, the dev and testing efforts were both significantly reduced because the platform was a proven one