

## White Label Platform for Branded Marketing Campaigns



WaveAccess is a results focused software development company that provides high guality software outsourcing services to hundreds of emerging and established companies globally. We use our technical expertise to increase business efficiencies, optimize slow or unreliable systems, recover projects that have gone off track and bring ambitious ideas to life.

22

years of delivering successful outcomes for customers



talented and passionate professionals



**R&D** centers and regional offices



industry verticals from banking to healthcare



successful projects delivered and counting



customer satisfaction index

## Awards and Recognitions



2017 Partner of the year Business Analytics Award



2018 Partner of the year Artificial Intelligence Award





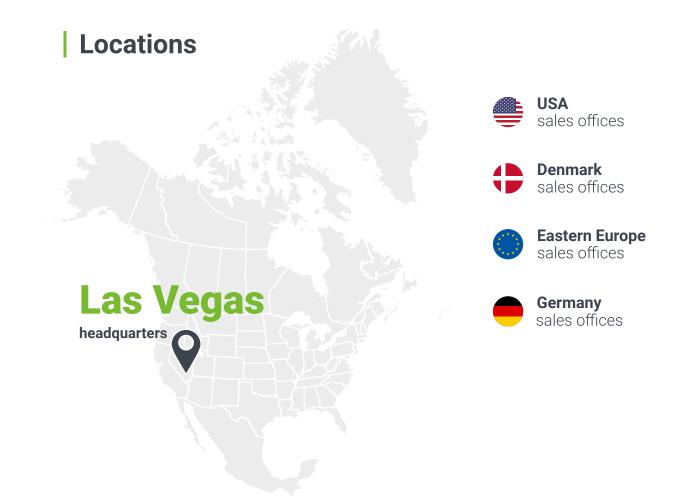


Microsoft Partner Microsoft





(ACADEMY OF MOTION PICTURE ARTS AND SCIENCES)



## **Core Competencies**



Implementation of highly loaded and highly scalable systems

Development of Real Time Monitoring Systems



Blockchain implementation

Building ETL and BI Systems



Building AI and Machine Learning based systems



Data import and migration

Workflow and business process
 automation



Microsoft Dynamics CRM development, customization and implementation



Web and Mobile applications development



Project recovery



System Integration and optimization



IoT project development

# **Project Overview**

Manumatix is a California-based company that offers IT-solutions for better customer engagement and marketing campaign performance. They have developed the Bamboo marketing platform that allows for brand promotion campaigns and provides them with insightful marketing analytics.

Manumatix Bamboo is a product aimed at promoting branded content online. It rewards users for sharing brand content on social media platforms.

## Problem

Manumatix's team, with its wealth of experience delivering Enterprise-solutions, lacked the human resources to develop their new project. They needed to satisfy the demands of their major clients and to compete with traditional online-promotion channels. So they decided to hire a dedicated development team to manage the Bamboo project.

### Why WaveAccess?

The WaveAccess team, with its extensive experience of completing projects for Manumatix, was the most obvious candidate. We proved our technological expertise in the .NET-programming along with QA and UX services.

The team was able to provide the customer with feedback the moment they needed it in the correspondence with Agile practice. Both team leads and developers were proficient in English and available for communication at a convenient time for the client.

## Solution

Manumatix engaged a team of seven WaveAccess specialists in the development of Bamboo. The team included developers, UX-designers, designers, QA and a support team. There were three "stages" in the project:

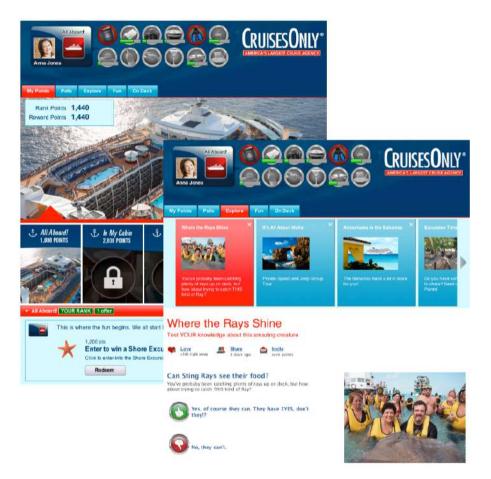
#### 1. Bamboo 1.0 Social Media Platform

The first edition of the product was created to accumulate social media traffic from different platforms and to make this "white noise" useful by engaging audiences in sharing content.

Technically, Bamboo 1.0 consists of two parts: web-application (java + jquery) and backend (desktop java application on Swing).

The web application accumulates social media users from Facebook, Twitter, Google+, Pinterest. The registered user can access special offers from brands and purchase them using a virtual currency. This currency can be earned by reading articles about a brand, watching videos, answering polls, and sharing branded content with friends via social media.

Special offers have their levels. For instance, the lowest-level prize in the Estonian Air inline campaign via Bamboo was a little plane figurine, while the highest-level prize was a dinner with the company's CEO. The interface looked like this:



Bamboo's 1.0 UX, brand – Cruises Only



Bamboo's 1.0 UX, brand – Estonian Air.



Bamboo's 1.0 UX, client – Mountain Dew

Backend enables application elements' adjustment, managing users, setting content sources and viewing the reports

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Bamboo's 1.0 Administrator's interface

#### 2. Bamboo 2.0 Traffic aggregator

The second edition of Bamboo is the media platform that draws video content producers (such as video bloggers, etc.) with better advertisement rewards, and more precise targeting tools (all compared to YouTube).

Traffic reorientation outside of YouTube is a very interesting business demand for many reasons:

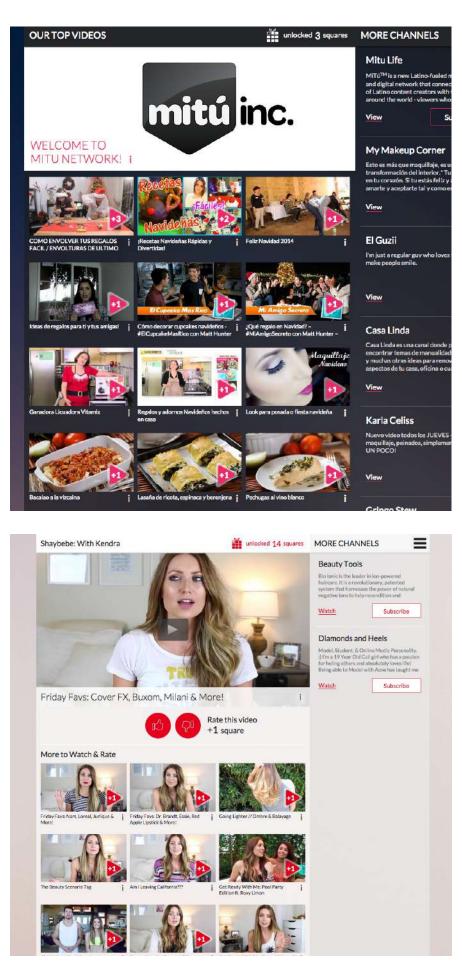
- YouTube is a one-size-fits-all decision. On YouTube, specialized video channels cannot adjust their advertisement for their specific audiences. The platform's targeting tools lack precision. There's always a probability of seeing, say, cars being advertised on a beauty channel.
- YouTube's commission is 40%, this makes the advertising consume more of a budget.

For a content producer with big traffic, it's more profitable to offer advertisements directly to a specific brand (say to a beauty brand) in order to reduce costs. This is profitable for both content creators and brands.

Bamboo 2.0 is a web application that consists of a public web interface and a closed administrators panel. The functions of the public interface are: to aggregate users, to show content and to offer gamification tools (as in Bamboo 1.0).

Administrator's interface is a set of pages with links to Excel reports.





Bamboo 2.0 UX examples

#### 3. Bamboo 3.0: content management platform

Bamboo's third edition is a platform for content management: videos, audios, pics, texts, animations, polls, and mini games.

The idea behind the new version is that if there is a traffic aggregator, it is better not only to get content from an external source, but also to upload user generated content. There should be a feature to manage one's content, and to integrate this feature with the existing marketing tools.

Bamboo 3.0 is a Bamboo 2.0 product upgraded to a content management platform and optimized for mobile platforms.

The content management platform enables uploading and editing your own content and sharing it on the social media (Facebook, Twitter, YouTube), for targeting and for setting up the rules to demonstrate content (age restriction, specific content avision, etc).

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Bamboo 3.0 UX example

## Technologies

#### - Backend

Java SE — standard edition of Java (customer's requirement — Plain Java without heavy frameworks). Used for backend in the first and second versions of Manumatix.

Spring Framework — was proposed by us for the video platform, being instrumental in a timely rate of development and ease the integration with external libraries.

#### – Frontend

Swing – to create a graphical administrator's interface in the first version.

jQuery — development of the user interface of the first and second versions of the product. Chosen for the ability to create cross-browser applications and simplicity.

Angular — Javascript framework. Allowed us to simplify testing and accelerate the development of the final version of the product, used in the third version of Manumatix.

#### Cloud services

Amazon Web Services — infrastructure provider (selected by the request of the customer).

## Challenge

In the developed system, the user flow is comparable to the scale of the social network. Therefore, we faced a problem of maintaining the continuous access to advertising information.

The solution was Amazon products. They were used for servers and to store data. The information system itself works within the private EC2 cloud. This approach allows them to provide maximum resistance to loads.

The geographic distribution of the data centers allows the user to work with the server with almost no delay. User and achievement data is stored in the non-relational database of DynamoDB, which also reduces the time of operations on the server, and as well as user idle time.

Another useful feature of DynamoDB is the ability to control the throughput of the software interface (UI) both through the graphical user interface (GUI) and programmatically. The provision of these settings in the GUI is shown in the figure below.

▲ Name	Status	Hash Key	Range Key	Read Throughput	Write Throughput
WADynamoDBTest	CREATING	1D	1.4	10	5

API through put data

You can reach the settings of these characteristics via the item «Modify Throughput». The throughput can be increased no more than twice for one change, and reduced by no more than 10%.

#### Modify throughput for: WADynamoDBTest

#### Provisioned Throughput:

Throughput can be increased by a factor of two or less each time you modify your table.

Read Capacity Units	10	(allowed values: 1 - 20)
Write Capacity Units	5	(allowed values: 1 - 10)

The API bandwidth configuration menu

Settings make it possible to manipulate the so-called Provisioned Capacity – the number of operations per unit of time that Amazon guarantees.

But in information systems with a distributed architecture, it is difficult to separate modules in such a way that everyone works with their set of tables in the database. It usually requires the cooperation of various modules to accomplish the tasks of the business. In this case, the dynamic control of the bandwidth takes on an important role. To provide such a functionality, we used the Google Guava library.

The use of the latest technologies in the implementation of the IS has led to increased system flexibility and reduced server workload (including lower server maintenance costs, since, within Amazon AWS, exceeding the preset number of database accesses or bandwidth leads to an increase in the account).

## Result

At the first stage of the development process, the WaveAccess team accomplished a full set of tasks that made it possible to launch more than ten Bamboo-based promotion campaigns. Estonian Air, Mountain Dew (PepsiCo's brand) and other clients used the application.

At the second stage, we developed new features that helped Manumatix to win Nestle as a client. The achievement of this stage was Nestle's Pure Life promotional campaign, with an overall budget of \$12 billion.

Bamboo 2.0 became a link between the customers of drinking water and a gamification subsystem. There were promo codes on water packs and bottles that could be registered and then redeemed for prizes.

The advantage of Bamboo 3.0 is a micro-services concept in the application's architecture. The platform became mobile-friendly and today it is used to lead promotional campaigns all over the world, while even more features are developed. Now it allows for using the budget more effectively and obtaining higher profits.



# If you have a project for us, please get in touch

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