

Lessons learned from real-world deployments of Java EE 7

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- More annotated POJOs
- Less boilerplate code
- Cohesive integrated platform

- WebSockets
- JSON
- Servlet 3.1 NIO
- REST

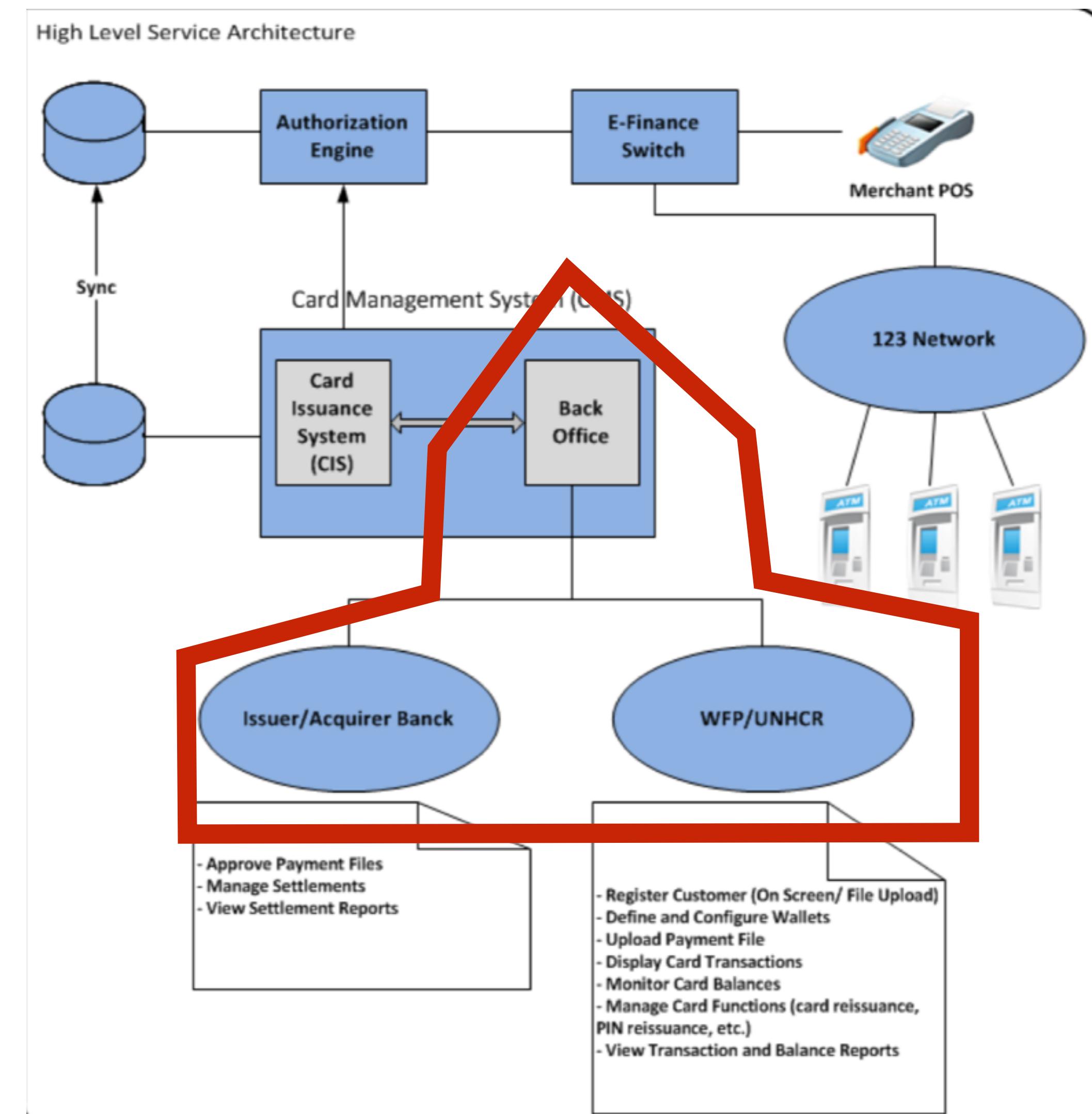
- Batch
- Concurrency
- Simplified JMS



- UN agency to protect and support refugees
- Help UN refugees to get benefits through secured card wallets
 - Register, issue card, POS, ATM, Settlement
 - Refugees get cash or use cards at merchants



Architecture



Technology

- **JSON**: Notification messages to agents (simple messages created using `JSONBuilder`, No dependency on 3rd party library)
- **Batch**: End of day tasks like posting of accounts, generation of reports, email to clients and banks
- **Concurrency**: Managed threads pool for work
- **EJB**: Backend services (locally and remotely)
- **JAX-WS**: Integration with WFP/UNHCR systems (exposed interface)

Technology

- **JPA**
 - Stored procedure calls (Oracle and SQL Server)
 - Two-way schema (model using JPA, generate schema, tune it, and regenerate entities)
 - Change requests
 - Default **CDI** enabled (ease of integration between different layers)

Additional Libraries

- PrimeFaces
 - Great support in NetBeans
 - Generator plugin (in NetBeans) that facilitate and streamline development of pages based on entity beans (e.g. Admin and Operations page)
 - jQuery stock library (streamline UI development in few lines)

Runtime

- GlassFish 4
 - 2 instances deployed locally
 - Mandate to use commercial app server
- Java SE 7
- Oracle 11g and Microsoft SQL Server 2008

Tools

- NetBeans 7.4
 - Integrated GlassFish management
 - Many templates to start from
 - PrimeFaces generator plugin
 - Great compatibility with HTML5

Acknowledgments



@_tamann

miles2run.org

- Track your daily runs
- Day or distance-based goals or community runs
- Social network for runners
- Its free



Miles 2 Run



Community Runs

8
Runners

477.85
Miles

7.49
Hours

8
Cities

6
Countries

Join Miles2Run Today

Capture all your runs, anytime, anywhere.

Miles2Run is a fast and fun way to share your running activities with friends and family. Sign up, enter an activity, share, and track your progress. It's easy.



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JavaOne 2014

27 June 2014 - 02 October 2014

JavaOne Community Run

Official website: <http://oracle.com/javaone>

Twitter: @javaoneconf

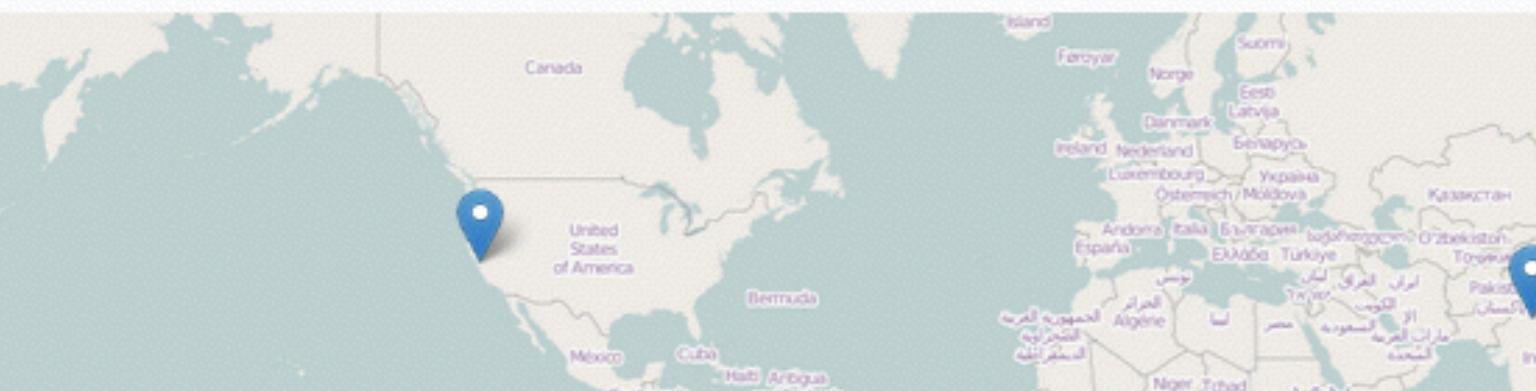
Join Community Run

JavaOne 2014 Community Run

New Activity



4 RUNNERS 452.83 MILES 0.54 HOURS 4 CITIES



452.83

Total Distance (mi)



86

Total Activities



98

Total Days



84

Completed Days



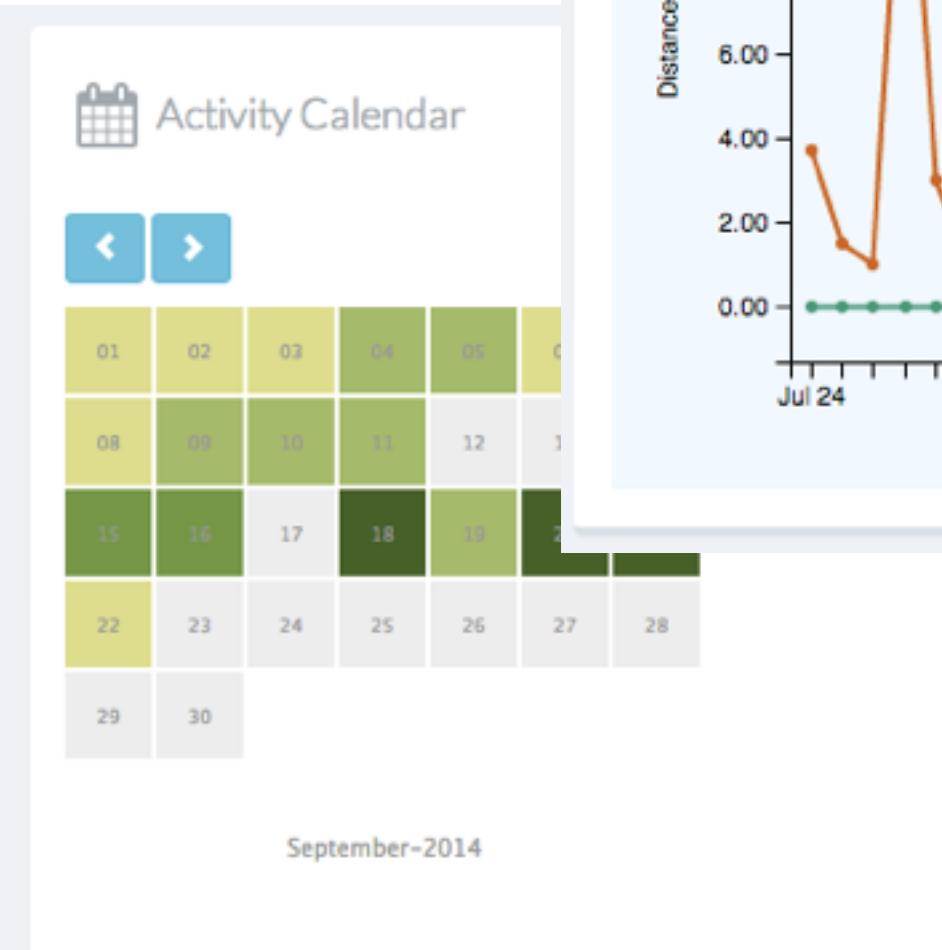
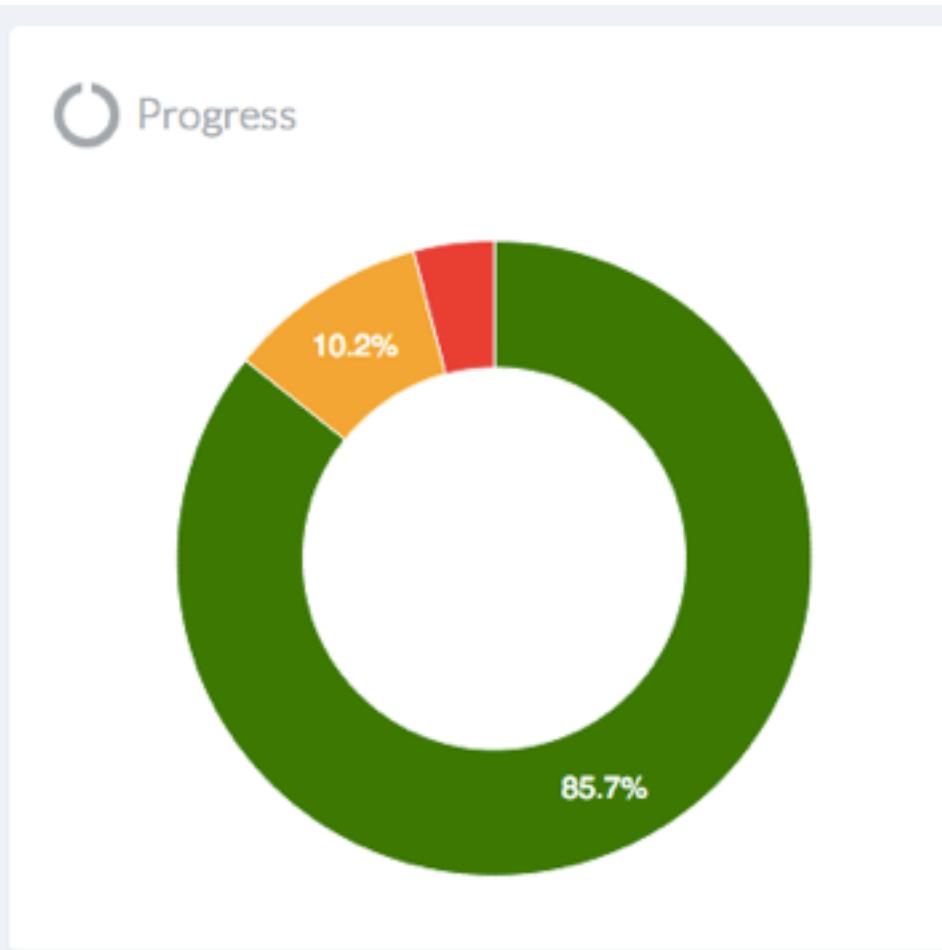
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Remaining Days

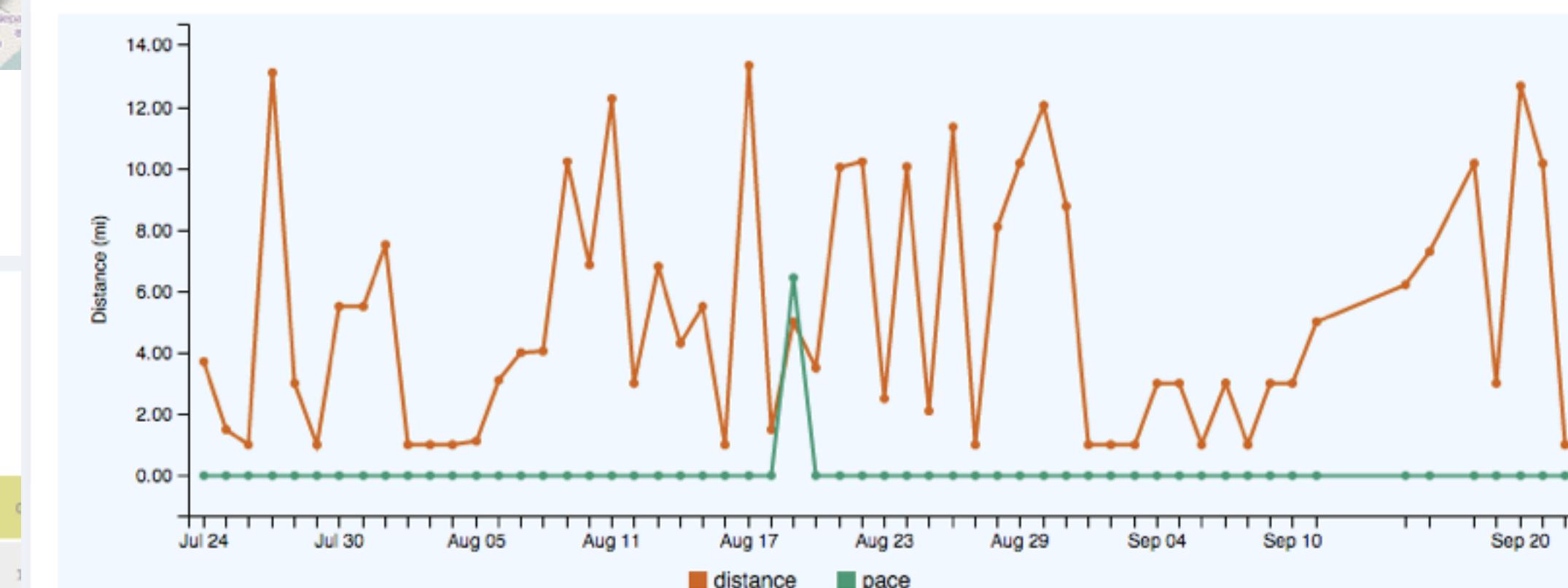


4

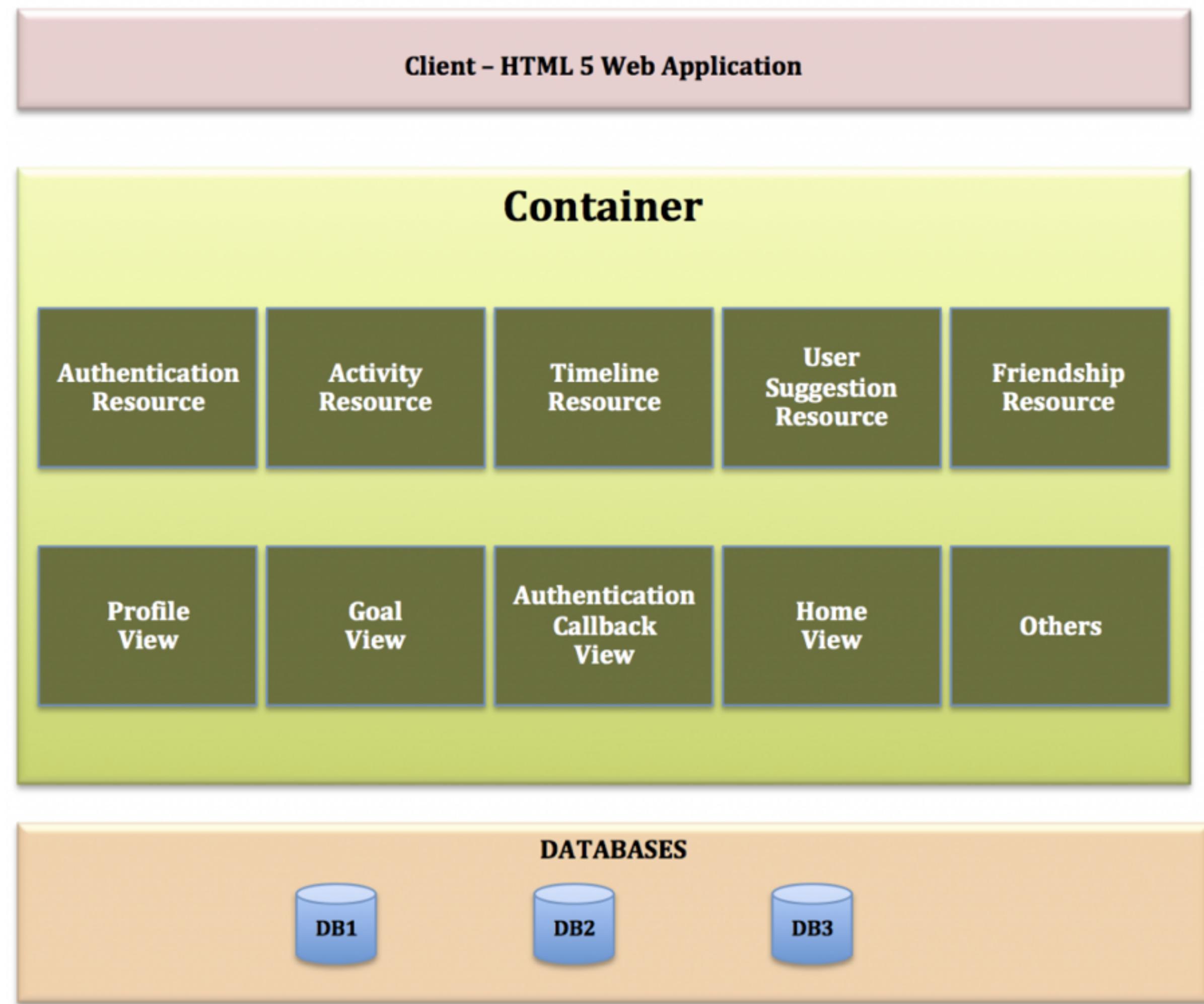
Missed Days



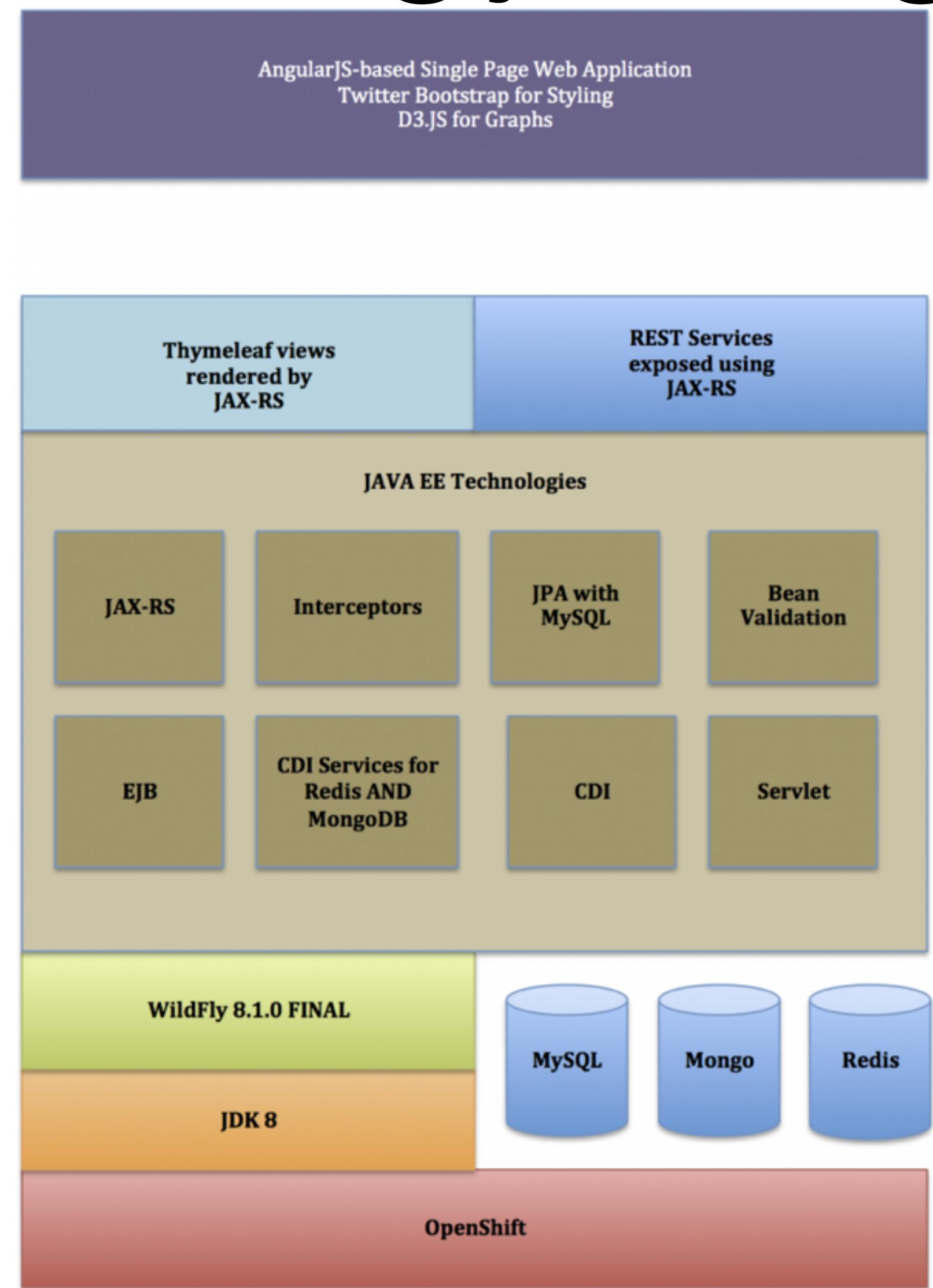
Distance vs Pace



Architecture Diagram



Technology Diagram



Technology

- User Interface
 - Thymeleaf: Java-based HTML5 templates
 - AngularJS based multiple SPA, consuming JAX-RS endpoints
 - Twitter Bootstrap theme
 - Authentication using JAX-RS filters
 - D3.js and C3.js for pretty graphs

Technology

- Middleware
 - EJB + JPA services for RDBMS
 - CDI services for NoSQL datastores
 - Joda-Time API for working with Date
 - Authenticating with various OAuth providers like Twitter using respective client API. Planning to upgrade to Keycloak.
 - SFL4J with logback for logging

Additional Libraries

- Thymeleaf template engine for server side HTML5 views
- OAuth providers with client libraries
- Joda-Time for working with date/time
- jadira.usertype for storing date as UTC in database
- Database drivers for Redis and Mongo
- JUnit with Mockito for Unit testing
- Arquillian for integration testing

Runtime

- JDK 8
- WildFly 8.1.0 Final: 2 scalable instances running on OpenShift with HA Proxy Load Balancer
- Data Stores
 - MySQL - All business entities like Activity, Goal, User profile, etc.
 - Redis - Generate timeline data using *sorted sets* and storing all counters
 - MongoDB - Location based user recommendations, follower/following stored using in-built array types

Tools

- IntelliJ IDEA
- Git as version control
- Jenkins - planned for CI and deployment

Wish list for Java EE 8

- Support for NoSQL database
- Easy to add OAuth support to application and use existing OAuth providers
- Modern MVC framework with support for pluggable template engines

Acknowledgments

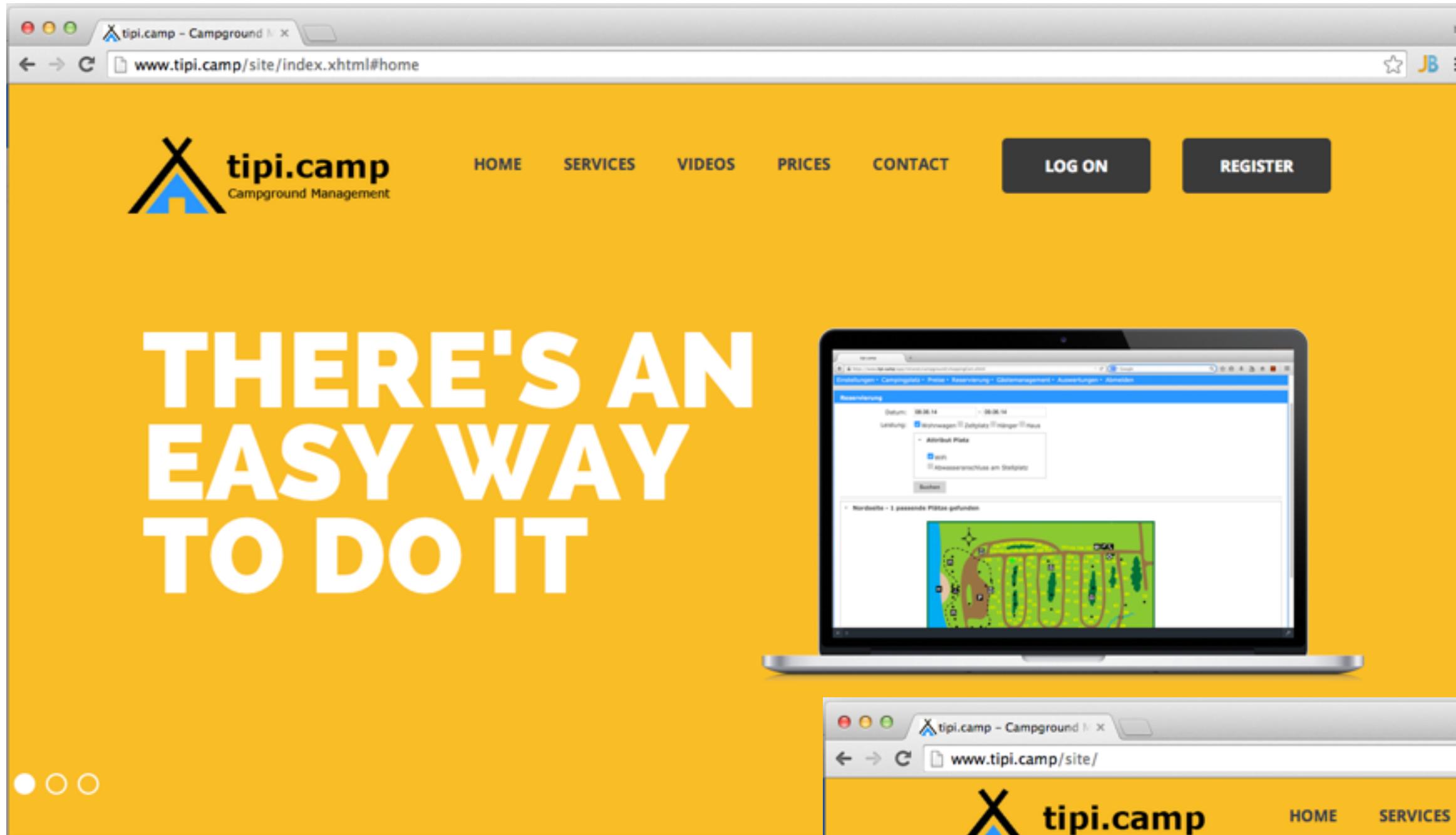


@shekhargulati

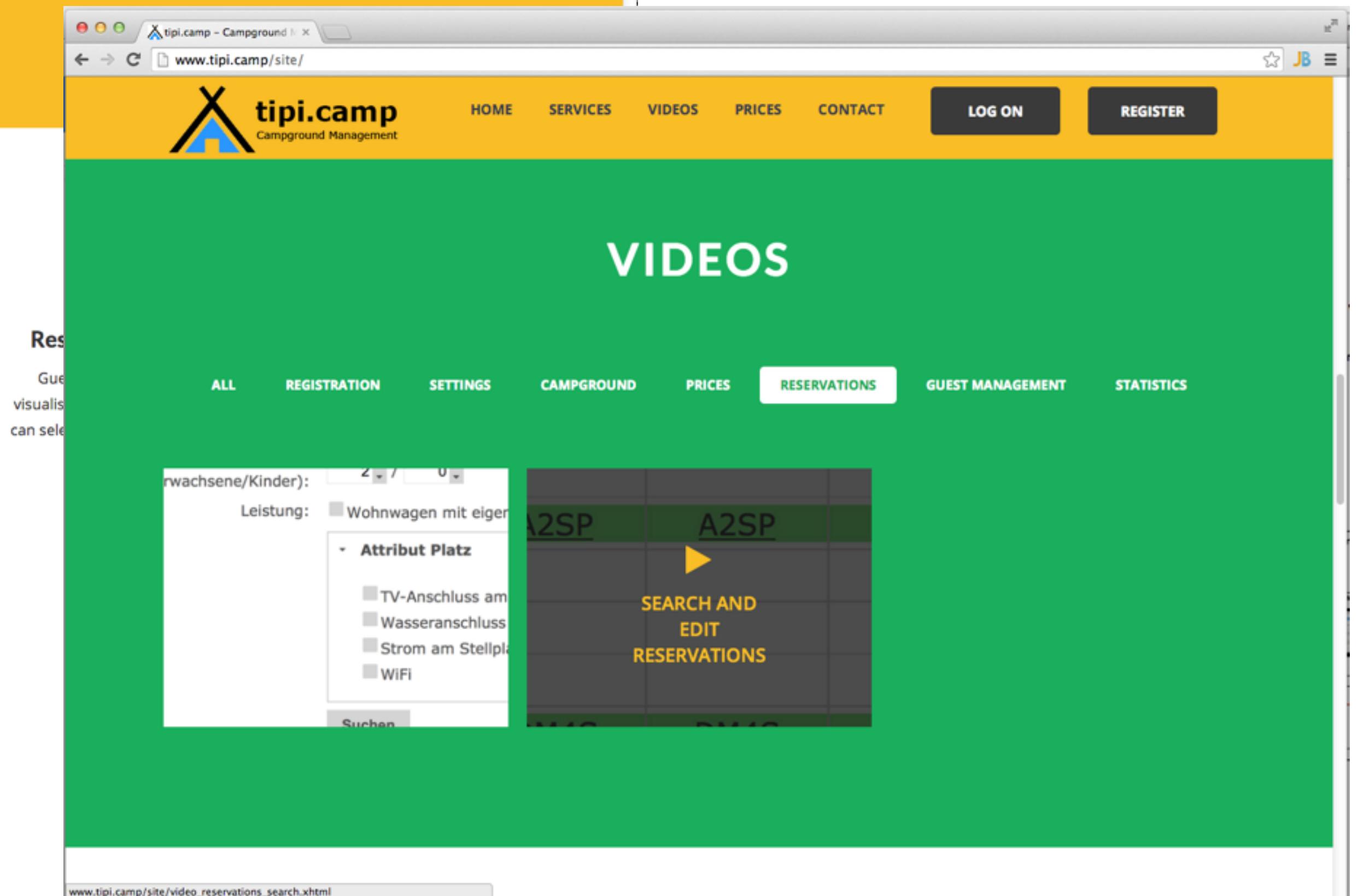
tipi.camp



- Campground management
 - Reservations, portal, email, monitoring, ...
 - Targeting 25k+ campgrounds in Europe
 - Customer-friendly booking portal
 - On-premise or SaaS
 - €1 or \$1 / day



THERE'S AN EASY WAY TO DO IT



VIDEO

Campground Management System

Campground

Manage and reserve your campground quickly and easily

CRM

The integrated customer relationship management system allows relationship management with the guest.

RESERVATIONS

SEARCH AND EDIT RESERVATIONS

#JavaEE7 #JavaLand

Sundown Camping

Home Lage Plätze Buchen Aktuelles Ausstattung Preise Bilder Karten Impressum

Sundown Camping

Willkommen bei Sundown-Camping

Genießen Sie den 4 Sterne Terrassencampingplatz in Sunhill am Bergsee.

[Online Buchen](#)

Einen Fahrräderverleih gibt es am Platz, um das großzügige Angebot der schön angelegten Fahrradwege nutzen zu können. In zwei Minuten Entfernung befindet sich der Abenteuerspielplatz und das Freibad – Unternehmungslust wird hier belohnt. Aktivität und Sportlichkeit können sie auch beim Paddeln, Motorboot-Fahren oder auf Wasserski und Wakeboard am Main unter Beweis stellen. Naturliebhaber werden den Wein- oder Quittenvierlpfad vorziehen. Verwöhnen Sie sich mit unbeschwertem, erholsamen Tagen an der Mainschleife bei Volkach – beim Wohlfühlen entsteht Wellness.



Sundown Camping Kontakt Geokoordinaten

Am Waldrand 7a
85476 Sunhill
Deutschland

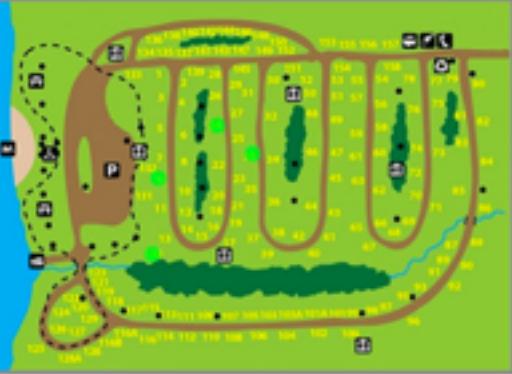
Sundown Camping Home Lage Plätze Buchen Aktuelles Ausstattung Preise Bilder Karten Impressum

Buchen

Datum Anreise: 24.06.2014
Datum Abreise: 31.06.2014
Erwachsene: 2
Kinder: 0

[Suchen](#)

Stellplatz 33 Zeltplatz [Zeltplatz für 175,00 EUR buchen](#)



Stellplatz 9 Zeltplatz [Zeltplatz für 175,00 EUR buchen](#)



Sundown Camping Kontakt Geokoordinaten

Deutschland

tipi.camp
Campground Management

CAMPING CAMPINGS

Warenkorb (0)

Einstellungen • Campingplatz • Preise • Reservierungen • Gäste • Auswertungen • Abmelden

Kalender

Datum: 30.06.14 - 11.07.14

[Suchen](#)

Südseite

	30.06.14	01.07.14	02.07.14	03.07.14	04.07.14	05.07.14	06.07.14	07.07.14	08.07.14	09.07.14	10.07.14	11.07.14
1												
2	A2SP											
23												
3				W54A								
4	NR97	NR97	NR97	NR97	NR97							
47	XJQF											
71												
82	3W49	3W49	3W49	47					3W49			
Haus 85												

ID: XJQF
Erstellt: 27.06.14 19:32 - Sarah - Intranet
Datum: 28.06.14 - 09.07.14
Platz: 47
Leistung: Zeltplatz
Gast: Mike Hellriegl
Autokennzeichen:

tipi.camp
Campground Management

CAMPING CAMPINGS

Warenkorb (1)

Einstellungen • Campingplatz • Preise • Reservierungen • Gäste • Auswertungen • Abmelden

Warenkorb

Reservierung

47 - Zeltplatz

Aus Warenkorb Entfernen

Anzahl: 2
Erwachsene: 2
Anzahl Kinder: 0

Name	Verwenden	Anzahl	Datum	Handp	Preis EUR	Total EUR
Kurtaxe	<input checked="" type="checkbox"/>		18.07.14 - 22.07.14		2,00	8,00
Firewood	<input checked="" type="checkbox"/>	2	18.07.14 - 22.07.14	<input checked="" type="checkbox"/>	4,00	8,00
Grundpreis	<input checked="" type="checkbox"/>		18.07.14 - 22.07.14		20,00	80,00
						96,00

Gast

Gast: h

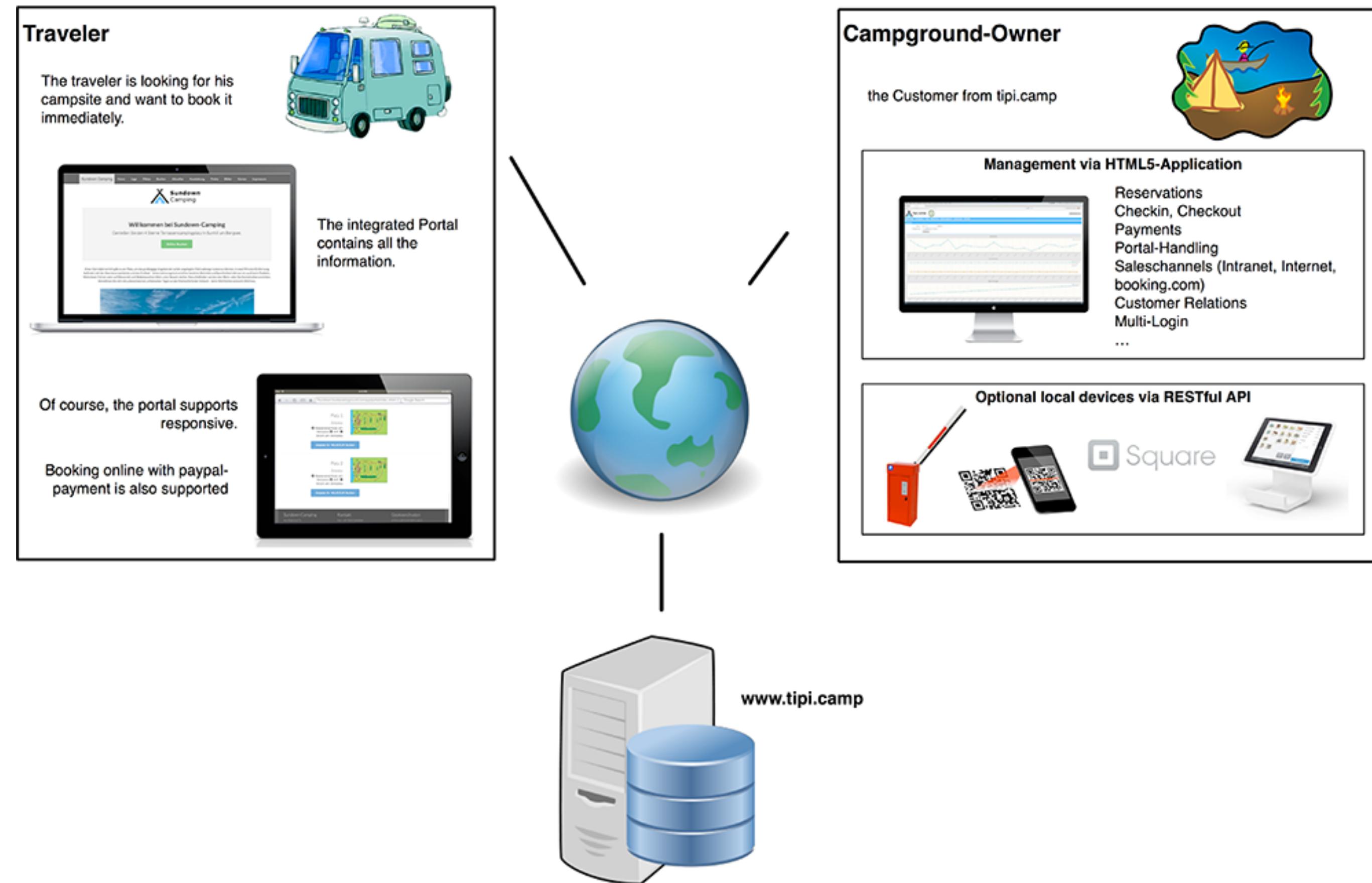
Klaus	Huber	Wien	klaus.huber@example.com
Mike	Hellriegl	Innsbruck	miike@h-e-l-l.at
Harald	Koblenzer	Hamburg	harald.d@google-mail.com
Hubert	Schmid	Zürich	schmid@schweiz-mail.ch
John	Miller	San Francisco	miller-jonny@googlemail.com

Anrede:

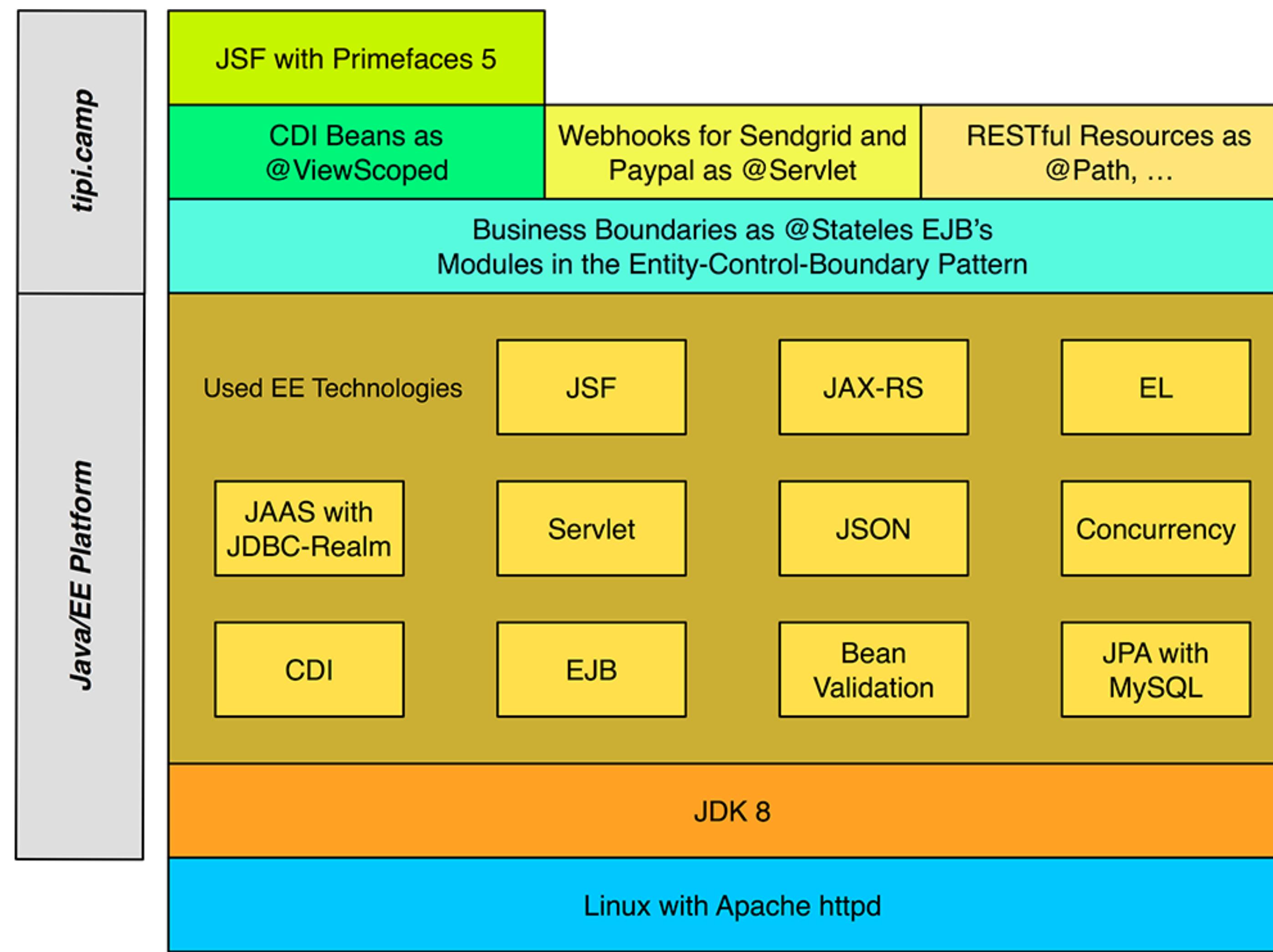
Vorname:

Nachname: Schmid

Architecture Diagram



Technology Diagram



Technology

- Presentation
 - JavaServer Faces + Expression Language
 - Security: JAAS principal + JDBC-realm
- Middle Tier
 - EJB for business boundaries
 - Servlets with JSON for web hooks: response from Paypal and Sendgrid
 - JAX-RS for exposing API to partners

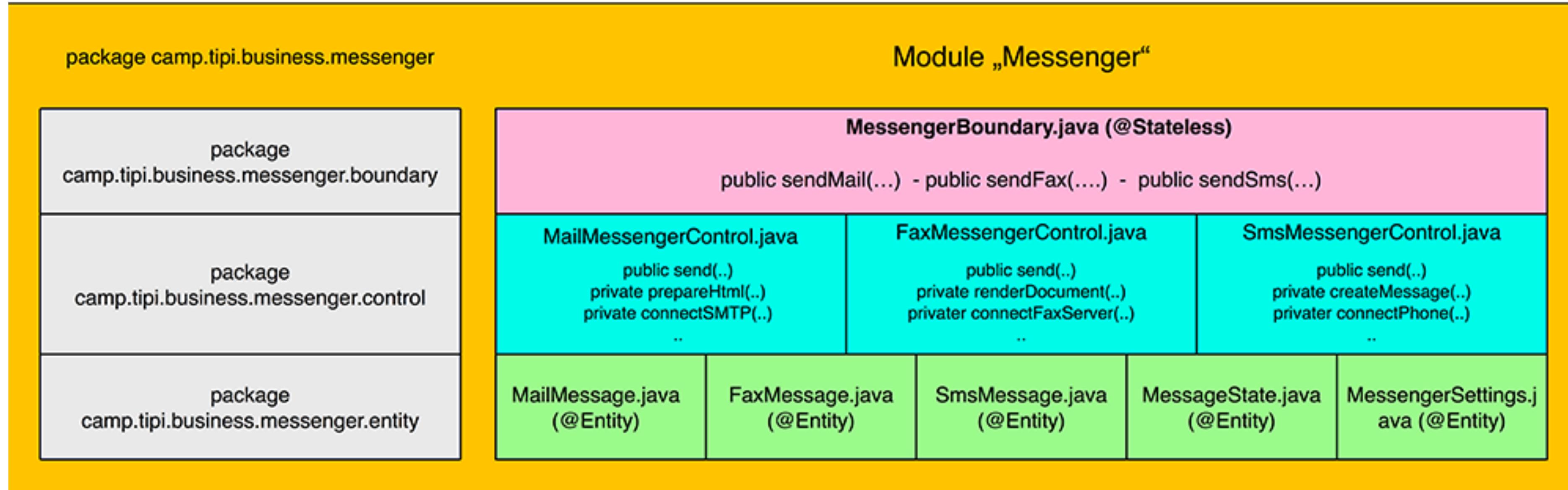
Technology

- Backend
 - JPA + Bean Validation, use `@Index` for database generation
 - Concurrency: Calculation of statistics and sending messages (Using `@Startup @Singleton @Schedule`, Sendgrid takes ~1-4 seconds)
 - JDK-8 specific features: Lambdas, parallel streams, Date/Time API

General Principles

- All components used with `@Inject`
 - `bean-discovery-mode="all"`
- All named beans are JSF 2.2 `@ViewScoped`
- All boundaries are only `@Stateless`, no `@Remote` or `@Local` interfaces
- All modules in *entity-control-boundary* pattern

Entity-Control-Boundary Pattern



Additional Libraries

- PrimeFaces5 and Bootstrap for the responsive portal
- Sendgrid API for sending emails
- Flyway for database migrations
- Misc Apache Commons
(`FileUtils.writeByteArrayToFile`,
`IOUtils.toByteArray`)
- JUnit with Derby for testing

Runtime

- JDK 8
- WildFly 8.1.0 - *super, unique product*
- MySQL 5.1.73

Tools

- IntelliJ 13.1
- Jenkins
- loader.io for load testing
- Self-hosted Linux server in hetzner.de data center
- Planning to migrate to OpenShift in 2015

Wishlist for Java EE 8

- Apache Commons Library
- Generics in Batch Processing
- `@Temporal` should work with `LocalDate` and `LocalDateTime`

*I have no great wishes, the **technology is perfect**.
I'm with java/ee7 **very productive**, i'm and our
customers are with java ee7 happy. With the
technology, really **everything is possible**.*

Acknowledgments



@ChristophGapp



@AdamBien

Resources

- **Java EE 7 tutorial:** <http://docs.oracle.com/javaee/7/tutorial/doc/home.htm>
- **~200 code samples:** github.com/javaee-samples/javaee7-samples
- Lots of books