OPEN SOURCE SOA BASED MIDDLEWARE FRAMEWORK FOR CLASSIFIED BASED WEB DEVELOPMENT

OUR TEAM
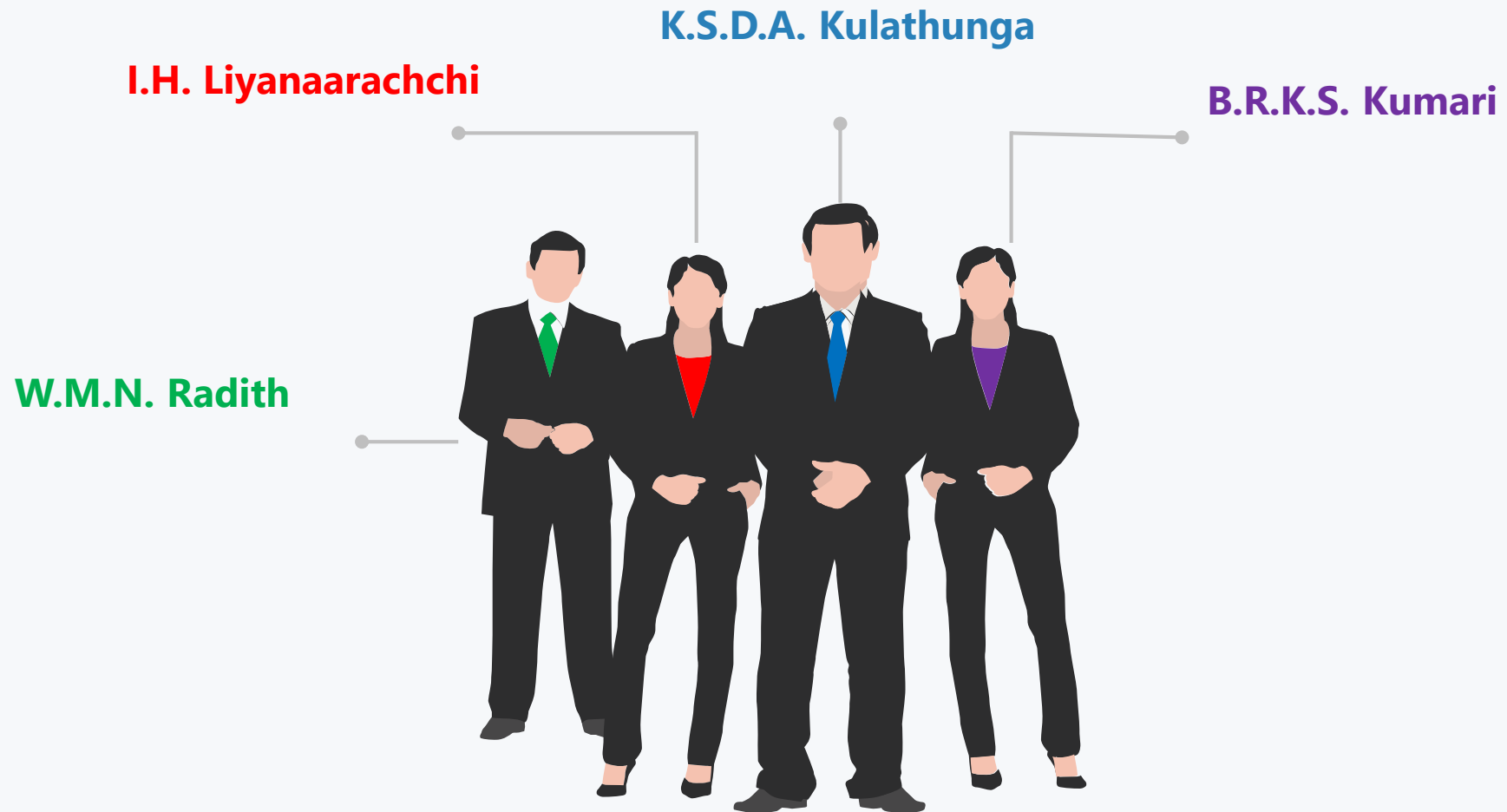
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BACKGROUND

WHAT IS CLASSIFIED WEB DEVELOPMENT?

- The evolution of classified ads begins in 2000BC.

- People tend to use hand written news sheets at ancient times.

- In year of 1704 marks the beginning of newspaper classifieds which made popular among people for huge amount of time.

- With the invention of internet in year 1991, online classifieds were introduced in the year 1995.
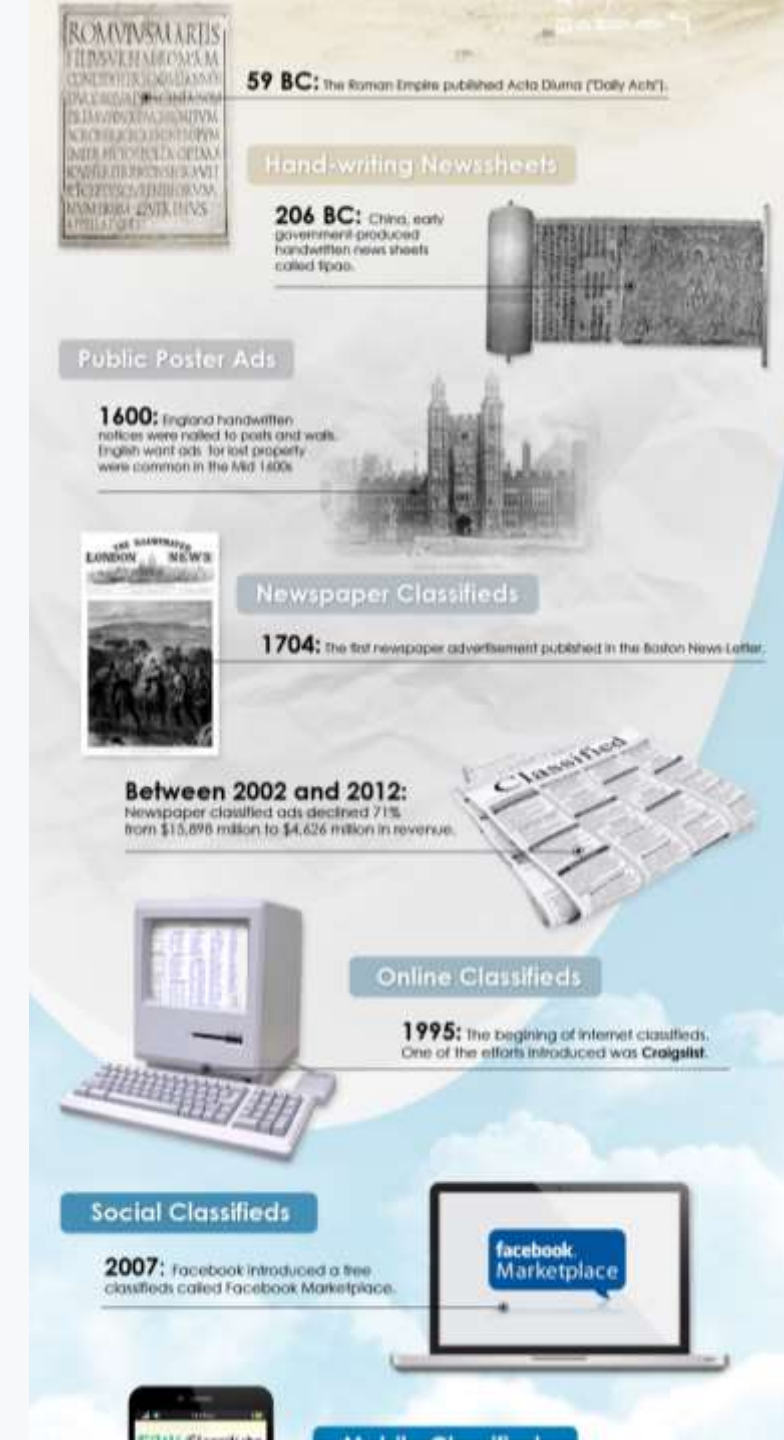
WHAT IS CLASSIFIED WEB DEVELOPMENT?

- The invention of classified web sites revolutionized the era of printed news papers.

- Classified web development originated with the time when online classifieds was introduced
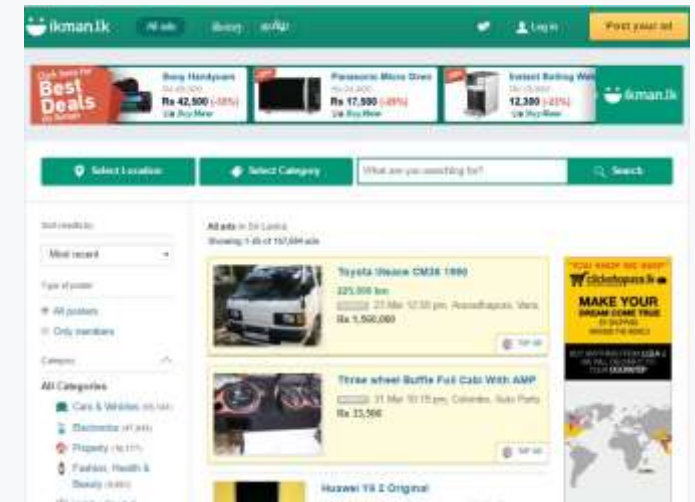
With the influence of web technology classified advertising gain flexibility and more features.

Printed media

Only text

Need to be short

VS

Web Platform

Text + images

Can be longer

Searchable

CLASSIFIEDS + WEB PLATFORM

Things happen after combination of web platform ...

MORE FEATURES

+

FLEXIBILITY

+

LOCALIZATION

+

LOW COST

+

FRAGMENTATION

## WEB REVOLUTIONIZED THE DOMAIN

- **Features :** Searching, Sorting, Ordering become easy according to users requirement

- **Flexibility :** Images + text with appropriate description.

- **Localization :** International scope, Domestic scope even city scope web sites

- **Low Cost :** no charges per-line, some sites offer their service free of charge

- **Fragmentation :** classified web sites for specialized markets e.g.: industry goods/ services

PROBLEM

DEVELOPING A CLASSIFIED WEB SITE

If it is started from the scratch ..

I need a classified web site
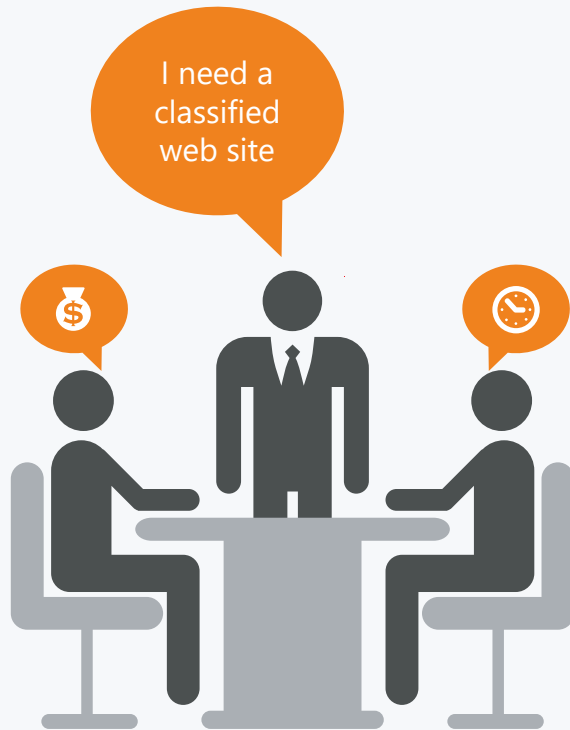
01 NEED DIFFERENT TECHNOLOGIES
It involves different technologies. Developer need to learn and understand each.

02 USER EXPECT ADVANCE FEATURES
Nowadays most of the classified base web sites contain advanced features.

03 MARKET IS VERY COMPETITIVE
Time is very important. .

04 DEVELOPER FRUSTRATION
Complex technologies + time constrains make developers frustrated. Result failure project or cost/ time overrun

LIMITATIONS OF EXISTING FRAMEWORKS

- Developer has to develop the same functionalities again and again whenever he gets a classified website to develop. (functionalities such as adding, editing, deleting and viewing advertisements)

- Developer has to stick to one database vendor, he can't go for his preference database vendor because existing frameworks don't support multiple vendors.

- If developer wishes to plugged his web application to a custom data store, he can't do that with the existing frameworks because most existing frameworks doesn't support database extension.

- Most frameworks doesn't allow all the major identity providers for federated authentication.

- Some classified framework features are not free and developer need to pay money to get the features.

- Most frameworks doesn't come up with an analytical engine in built with the framework.

SIMILAR FRAMEWORKS

SIMILAR FRAMEWORKS

01 **YCLAS – (OPEN CLASSIFIEDS)** Yclas is a tool which enables the user with little to no knowledge in website design to create their own website

02 **FLYNAX** Is a php script developed based on MVC architecture

03 **OXY CLASSIFIEDS** Is a powerful, flexible and fast php classifieds script.

04 **TITAN CLASSIFIEDS** allow you to create and manage a clean, professional, customizable classified website

05 **OS CLASS** Is a php script that allows you to quickly create and manage your own free classified sites

06 **CLASSIPRESS** Is a word press plugin which helps to create and manage classified websites
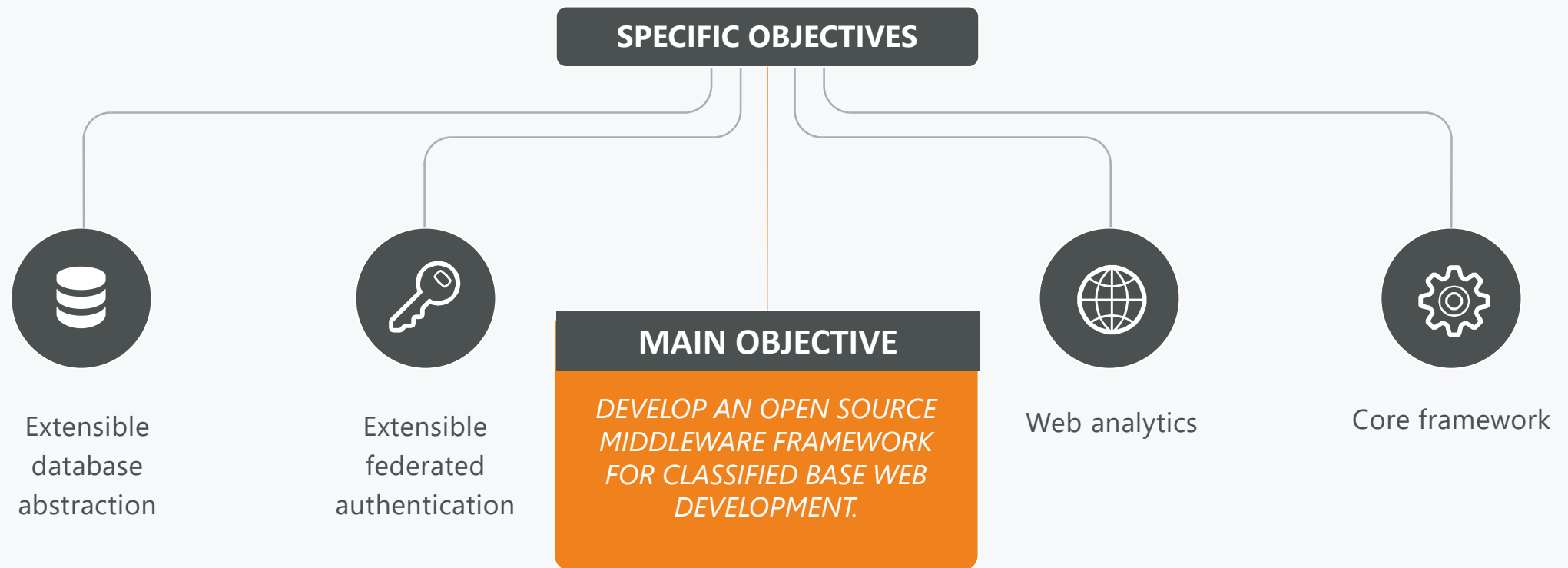
FEATURE COMPARISON

Features	Yclas (OpenClassifieds) Framework	Flynax	Oxy classifieds	Titan classifieds	Os class	ClassiPress	Proposed Framework (Ampliar)
Open Source	Yes	No	No	No	Yes	No	**Yes**
Free	Yes	No	No	No	Yes	Yes	**Yes**
Extensible Database Abstraction	No	No	No	No	No	No	**Yes**
Social Login	Yes	Yes (Only facebook)	Yes	No	Yes (Only facebook)	Yes	**Yes**
Extensible Federated Authentication	No	No	No	No	No	No	**Yes**
Web Analytics	Yes	No	No	No	No	No	**Yes**

OBJECTIVES

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SPECIFIC OBJECTIVES

Extensible database abstraction

Extensible federated authentication

MAIN OBJECTIVE

DEVELOP AN OPEN SOURCE MIDDLEWARE FRAMEWORK FOR CLASSIFIED BASE WEB DEVELOPMENT.
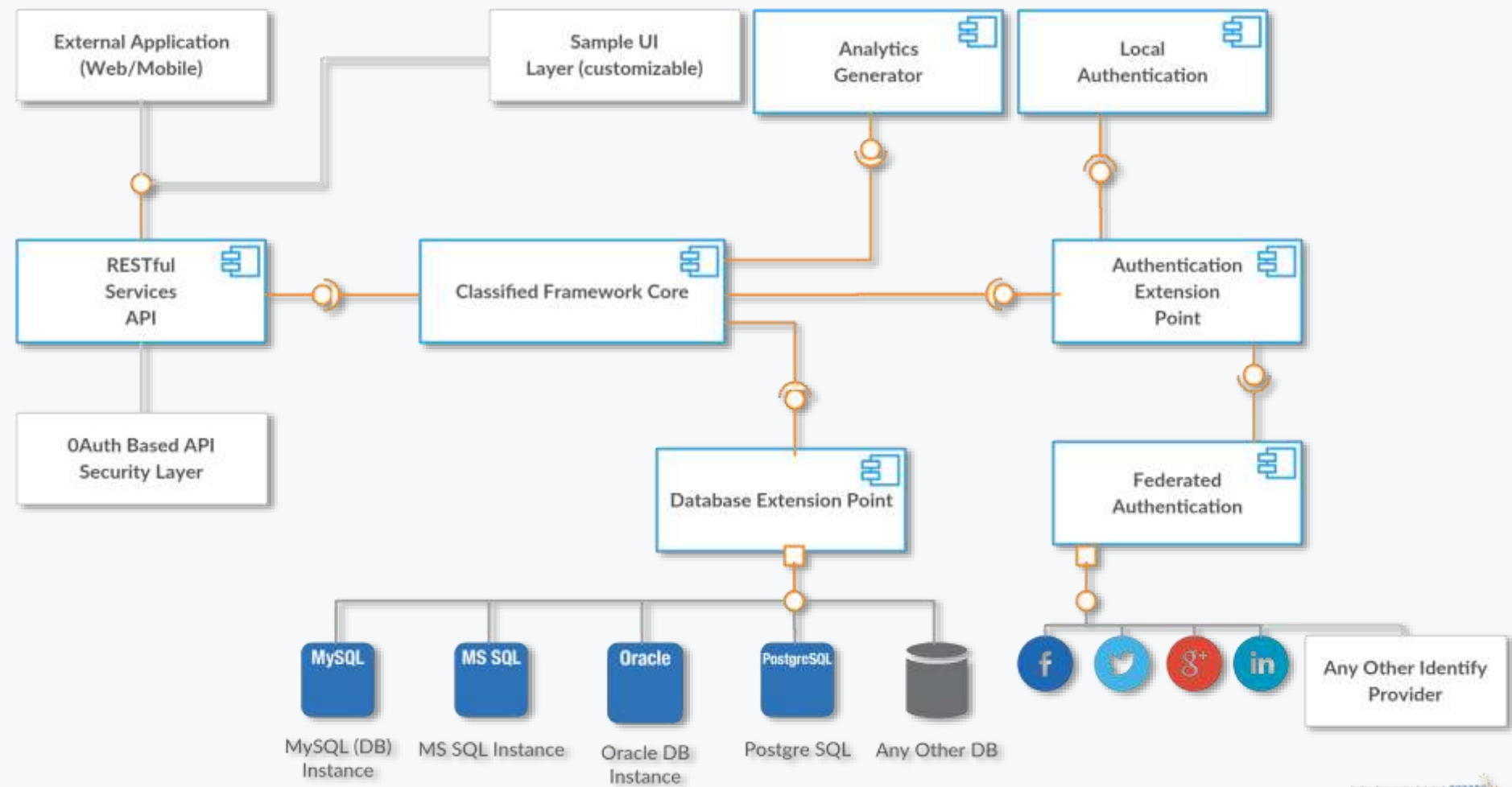
Web analytics

Core framework

METHODOLOGY

SYSTEM ARCHITECTURE

High level architecture diagram of purposed system
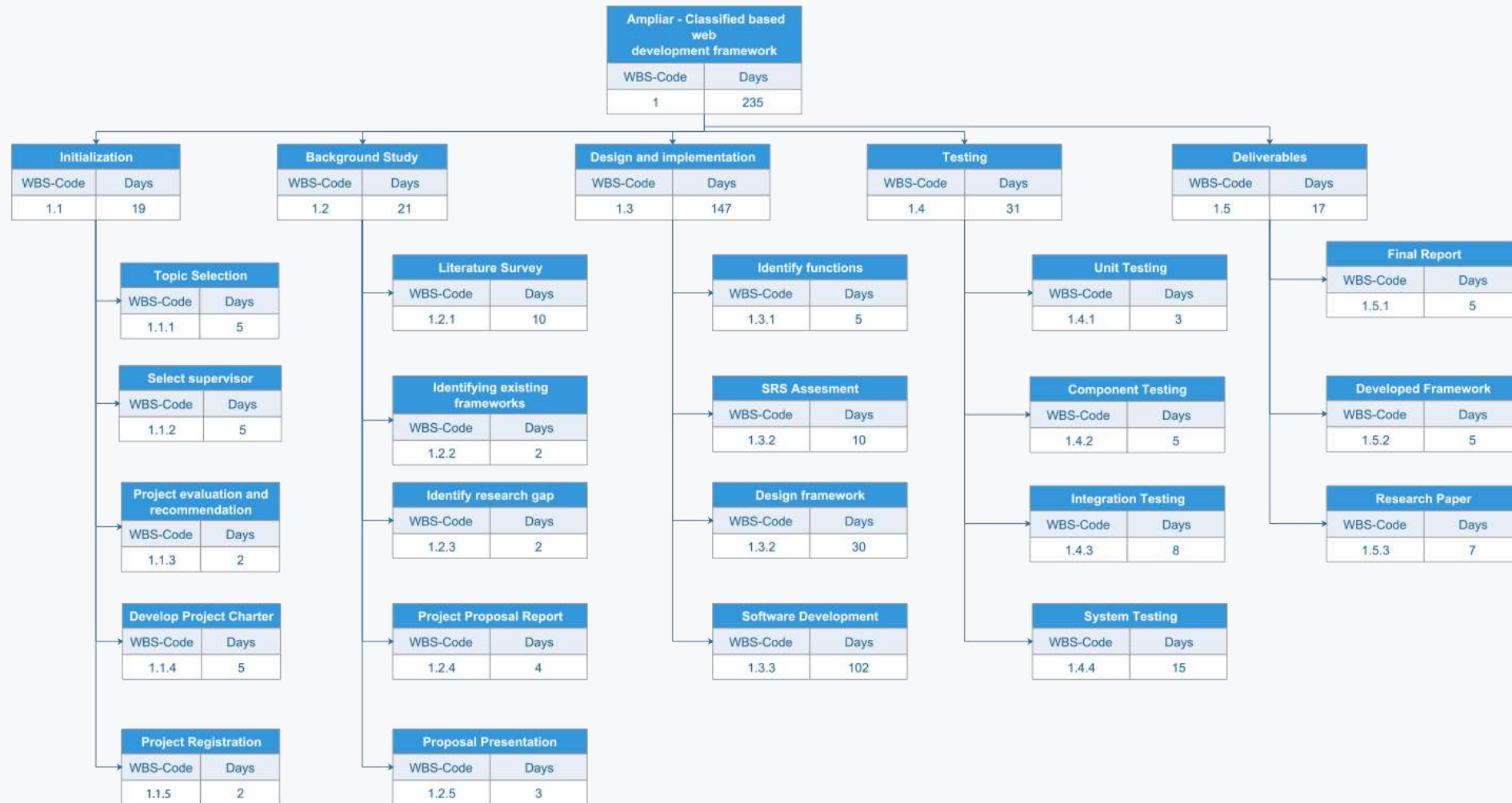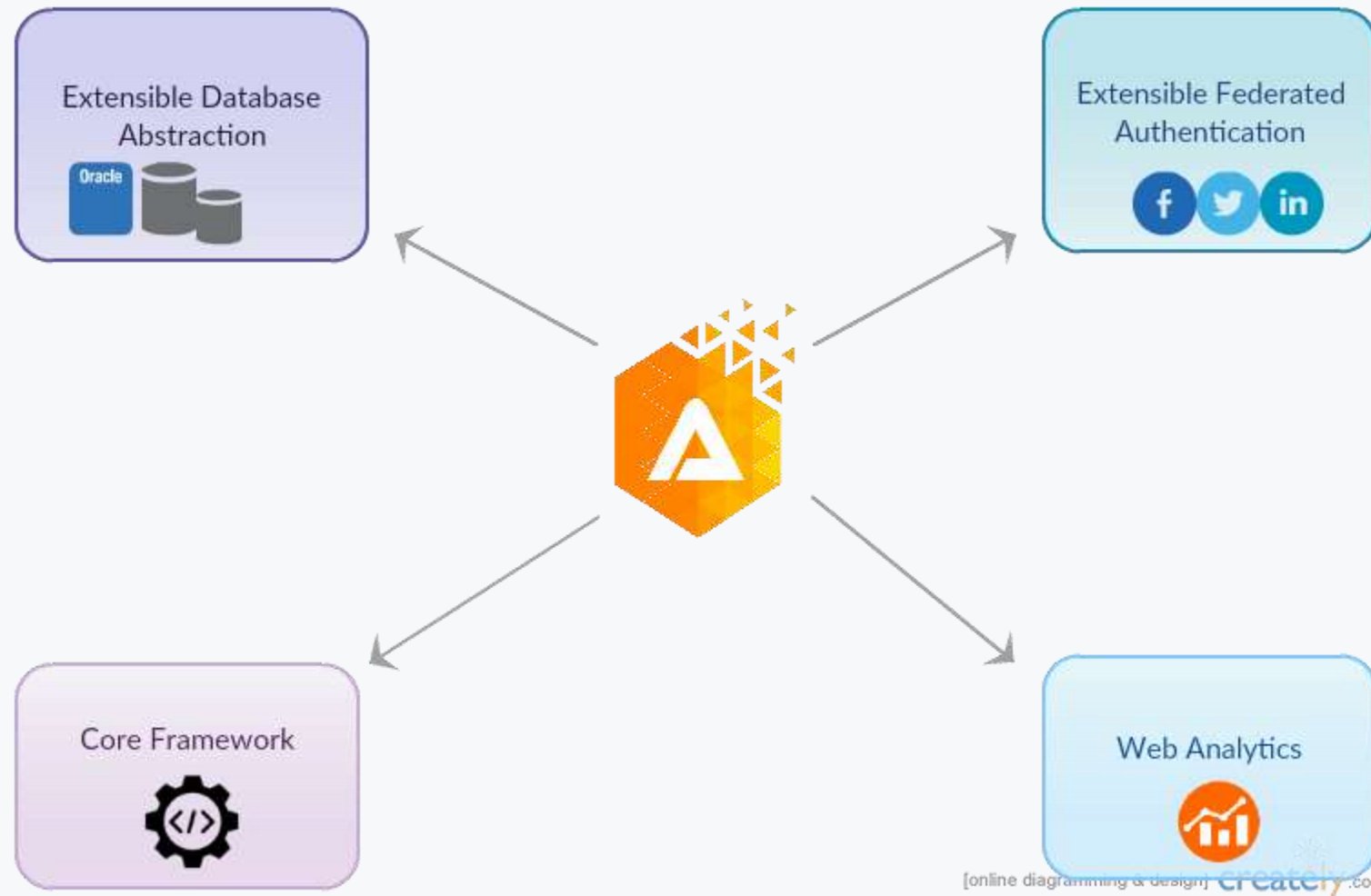
SYSTEM ARCHITECTURE

System consists of :

- External application (web/mobile)

- RESTful Services API

- OAuth based API security layer

- Database Extension point

- Authentication Extension point

    1. Local Authentication

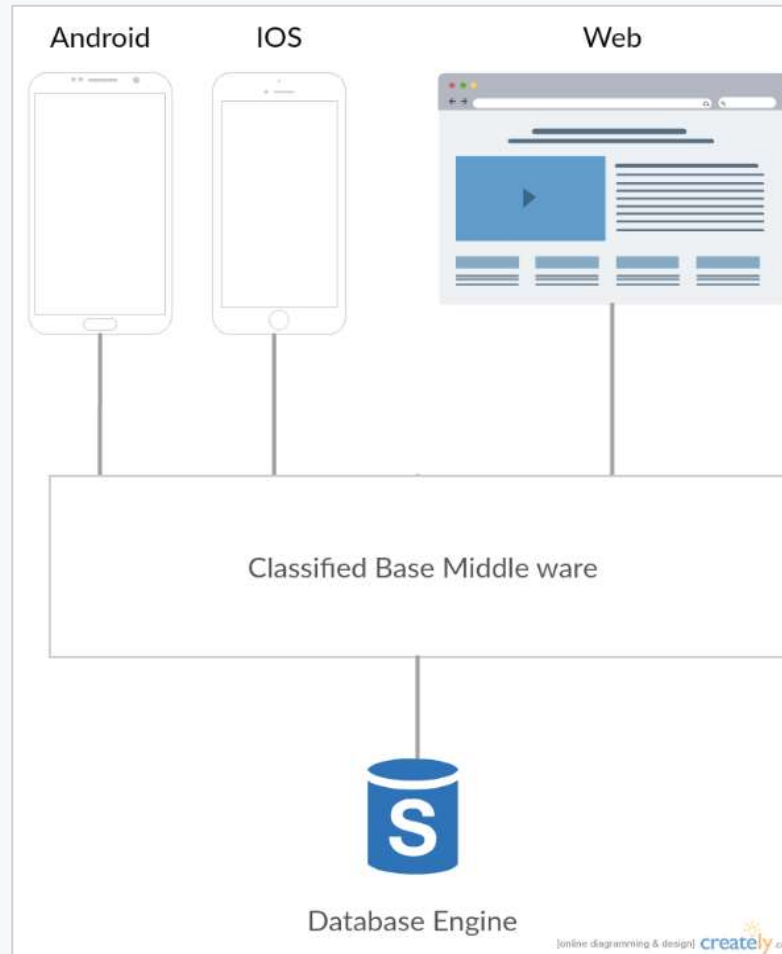   2. Federated Authentication

- Web analytics generator

WORK BREAKDOWN STRUCTURE

WORKLOAD DISTRIBUTION

Extensible Database Abstraction

Extensible Federated Authentication

Core Framework

Web Analytics

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CORE FRAMEWORK

CORE FRAMEWORK

- Integrate other components. (Database extension, authentication extension and analytics generator)

- Expose APIs for all functionality related to classified based websites.

- Those services should be secure with OAuth 2.0 protocol.

- Handle permissions, roles and security of the core framework.

- Manage routing, services, libraries, plugins and configurations of the framework.

- Manage core functionalities such as adding, editing, deleting and viewing advertisements.

EXTENSIBLE DATABASE ABSTRACTION

This module handles everything between core framework & database engine

Caching Layer

Data Abstraction Layer
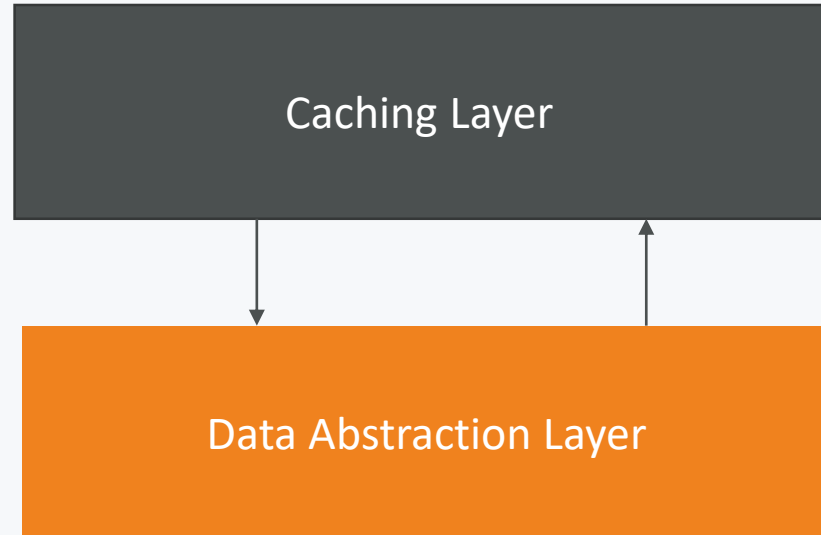
CONTAINS TWO LAYERS
1. Caching layer
2. Data abstraction layer

CACHING LAYER
Cache each search query for constant amount of time.

DATA ABSTRACTION LAYER
Query the database. By default support MySQL, MSSQL, PostgreSQL and oracle. Can be extensible by the developer

CONFIGURATION FILE
This file contains cache pool configurations + database connection configurations .

EXTENSIBLE DATABASE ABSTRACTION

- Ampliar framework should support for major database vendors.

- By default framework will support MySQL, MsSQL, OracleSql and PostgreSQL.

- If developer wishes to plug a custom data store (eg: file based, service based... etc) the same functionality can be implemented extending the methods provided by the framework in the database layer and the new component can be easily plugged in.
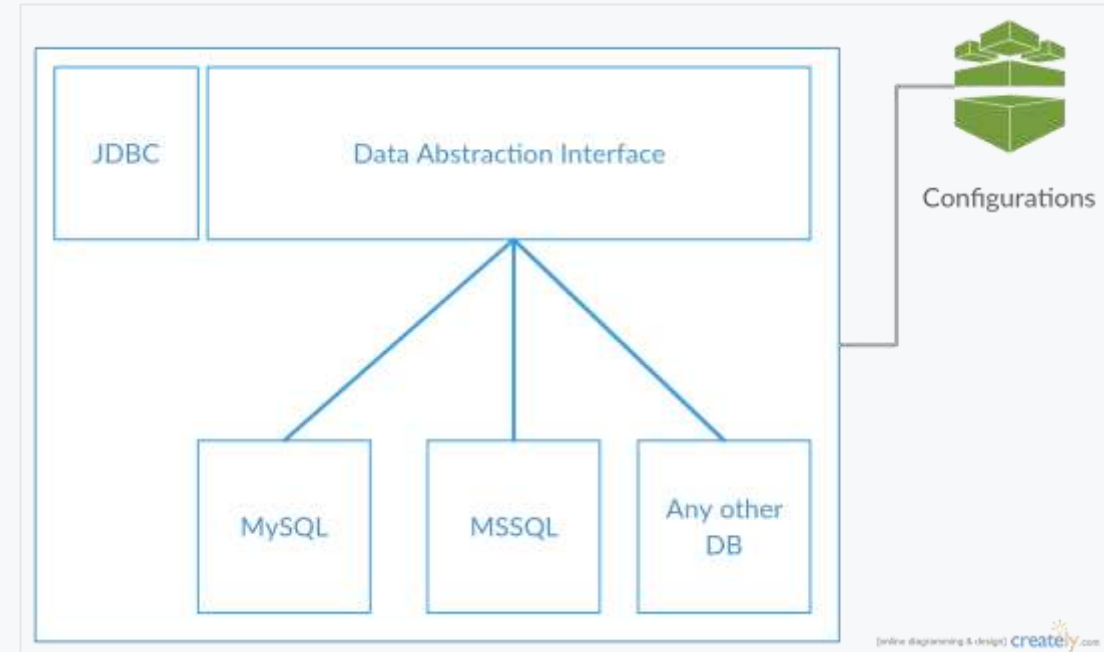
EXTENSIBLE FEDERATED AUTHENTICATION
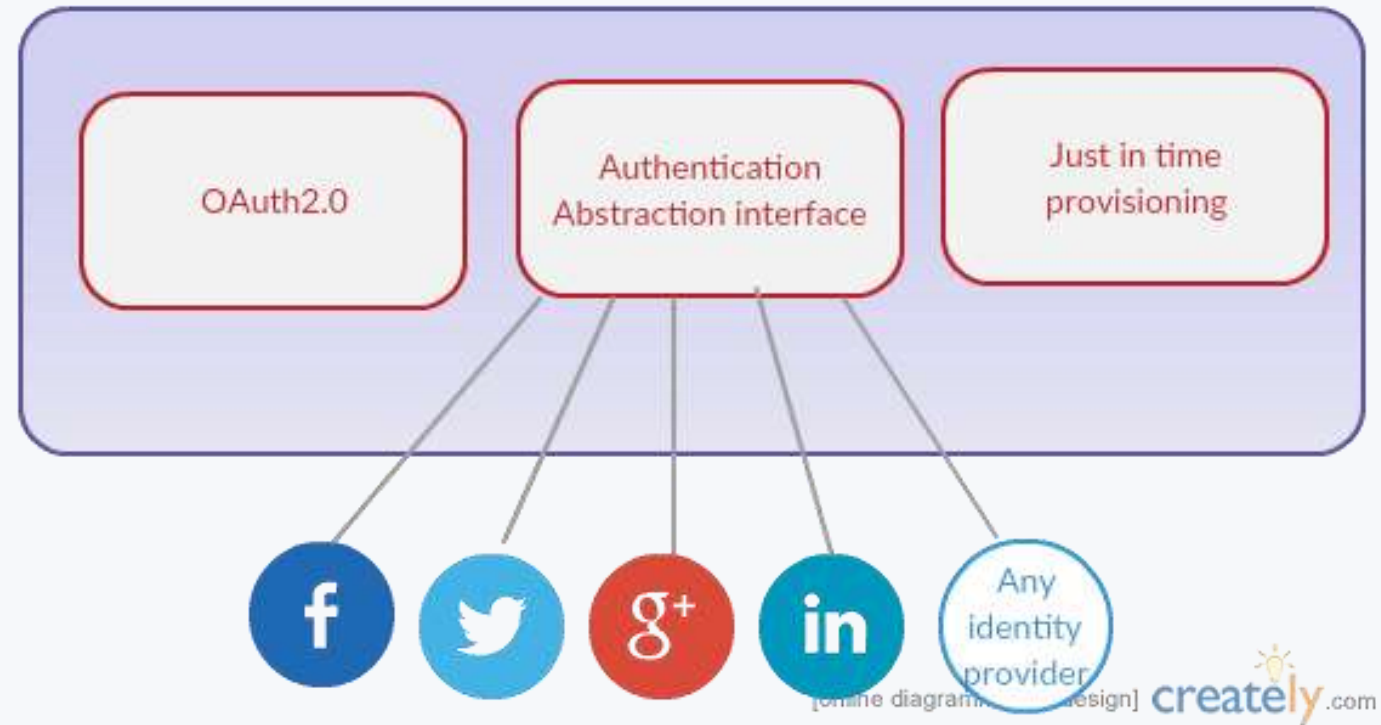
EXTENSIBLE FEDERATED AUTHENTICATION

- Apart from the local authentication, ampliar framework supports federated authentication.

- Federated authentication allows user to use an already existing identity provider and get authenticated to the system.

- Major identity providers such as facebook, twitter, google+ and linkedin support the federated authentication for the framework by default.

- And an extension point will be provided to implement support for any other identity provider.

- For the users who are logged in for one time access, component uses just in time provisioning mechanism to create users on the fly without creating user accounts in advance.

WEB ANALYTICS
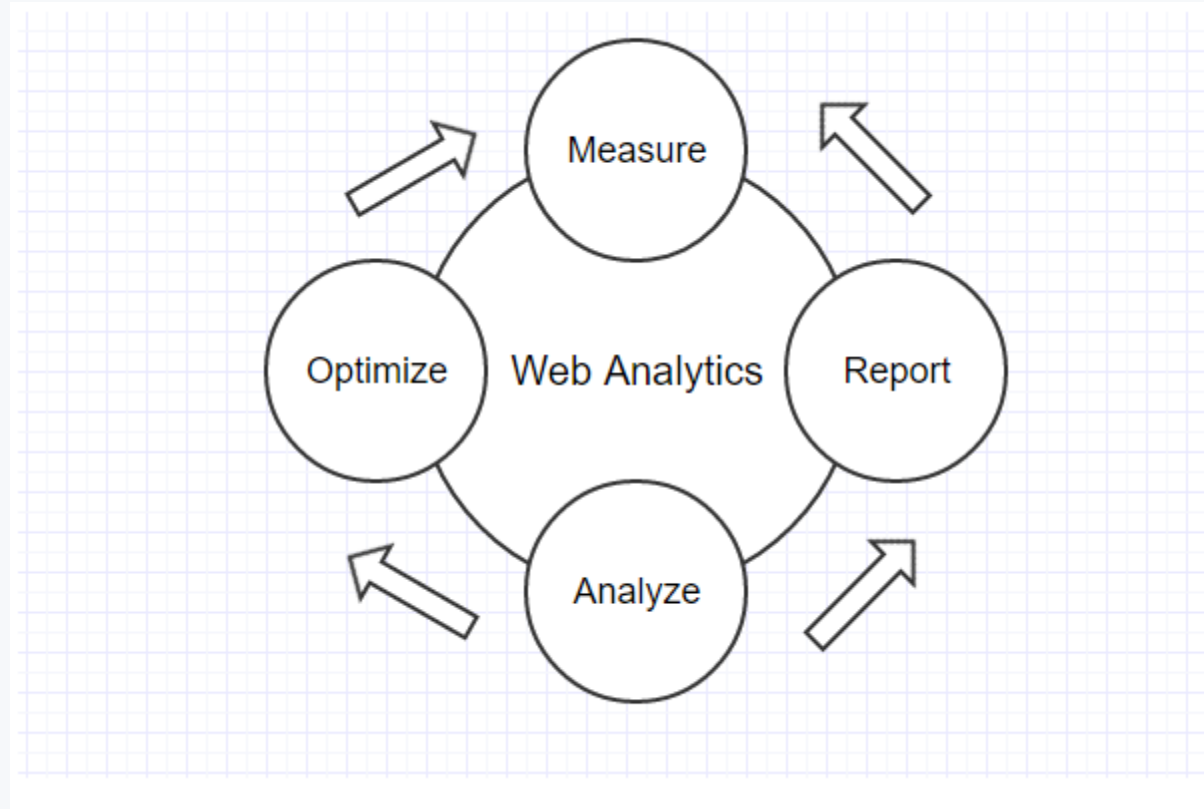
WEB ANALYTICS

- Web analytics is measurement, collection, analysis and reporting of web data for purpose of understanding and optimizing web usage.

- Focus on the process of analyzing the behavior of visitors to a website and based on web log data mining.

- Main objective is to design and implement the web analytic.

- Developer may get the opportunity to use the existing web analytics library or the facility to develop an analytic engine by himself to analyze their classified web site statistically

- follows a listener architecture to develop the analytics.

TECHNOLOGIES AND SKILLS

- Java (Web) JSP, Servlets
- RESTful Web Services (JAX-RS)
- API Security: Basic Authentication and OAuth token based authorization
- SQL (supportability for major vendors. MySQL, MSSQL, Oracle, PostgreSQL, IBM DB2)
- HTML5, CSS
- OAuth 2.0 based Federated Authentication support (facebook, twitter, google, linkedin etc.)
- Just in time provisioning
- Caching layer with Ehcache
- Secure coding with OWASP best practices
- FindSecBugs, OWASP Dependency Check, OWASP ZAP for security testing
- GIT for source code management
- Apache Jmeter for performance testing
- Apache Maven
- Jenkins for continuous integration/delivery

RESEARCH AREAS

- Software Engineering

- Information Security

- Data Science (Data Analytics)

BENEFITS OF AMPLIAR FRAMEWORK

- Developer can easily use the core framework to develop the major functionalities, he doesn't have to develop from the scratch.

- Developer has the opportunity to choose his preference database vendor since ampliar framework supports multiple database vendors.

- Developer can easily plug a custom data store to the website.

- Developer can choose a different identity provider (apart from popular) for federated authentication.

- Developer can use the in built analytical engine to develop the analytics for the website.

- Reduce developer burden, complexity and knowledge gap during the development process.

- Reduce development time and cost of a classified base web development project.

EXPECTED OUTCOME

An open source, extendable SOA based middleware framework to be utilized for developing classified based websites for reducing the development time, cost and the learning curve.

MARKETING STRATEGY

MARKETING STRATEGY

Pre-Launch Marketing

- Social media marketing

- Referral marketing

- Blog

We can sell the framework for free with the self hosting and we can give price ranges with the hosting facility.

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THANK YOU!

Q & A