

Browser Infrastructure Pattern

Paulina Silva
Departamento de Informática
Universidad Técnica Federico
Santa María
Valparaíso, Chile
pasilva@alumnos.inf.utfsm.cl

Raúl Monge
Departamento de Informática
Universidad Técnica Federico
Santa María
Valparaíso, Chile
rmonge@inf.utfsm.cl

Eduardo Fernandez
Department of Computer &
Electrical Engineering and
Computer Science
Florida Atlantic University
Florida, USA
ed@cse.fau.edu

ABSTRACT

Currently a lot of software developments create systems that are connected to the Internet, which allows to add functionality within a system and facilities to their *Stakeholders*. This leads to depend in a *web client*, as the *Web Browser*, which allows access to services, data or operations that the system delivers. Nevertheless, the Internet influences the attack surface of the new system, and unfortunately many stakeholders and developers are not aware of the risks they are exposed. The lack of Security Education in Software developers of a project, the low and scattered documentation of each browser (and standardization), could become a great flaw in big architectural developments which depends on the browser to do their services. A Reference Architecture of the *Web Browser*, using Architectural Patterns, could be a base for understanding the security mechanisms and its architecture, which interacts with a bigger web system. This would give an unification of ideas and terminology, giving a holistic view regardless the implementation details for both the browser and the system it communicates to. We developed a Browser Infrastructure Pattern which describes the infrastructure to allow the communication between a Web Client and Server in the Internet. With this work we propose an Architectural Pattern as the first piece of our Reference Architecture for the Web Browser.

Keywords

Web Browser, Web Client, Modular Architecture, Browser Architecture, Reference Architecture, Browser Infrastructure pattern

Permission to make digital or hard copies of all or part of this work for personal or classroom use is granted without fee provided that copies are not made or distributed for profit or commercial advantage and that copies bear this notice and the full citation on the first page. Copyrights for components of this work owned by others than ACM must be honored. Abstracting with credit is permitted. To copy otherwise, or republish, to post on servers or to redistribute to lists, requires prior specific permission and/or a fee. Request permissions from permissions@acm.org.

WOODSTOCK '97 El Paso, Texas USA

© 2015 ACM. ISBN 123-4567-24-567/08/06.

DOI: 10.475/123_4

Introduction

Background

Related Work

Browser Infrastructure Pattern

Intent

The Browser Infrastructure Pattern allows the request of a web resource in the Internet to a **Browser User**, which is a user who uses a Browser within a Host. The Pattern lets visualize the communication between the components that make the Web Browser and the Provider (i.e, a Server), to whom the request is made.

Example

Within the Host it is possible a lack of resources that a Host user may need. The request of external services or resources is the main reason of the Internet existence. This kind of task it is possible to do in a lot of ways, it all depends on what the Provider wish to deliver to others.

Context

Problem

Solution

Structure

Dynamics

Implementation

Consequences

Example Resolved

Known Uses

Related Patterns

Conclusions

1. REFERENCES

- [1] Top 7 Desktop, Tablet & Console OSs from 2010 to 2015 | StatCounter Global Stats.

References