

# IronCurtain

WEB Gateway by WASD

Ceng 491 Senior Project

WASD

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# Who we are?

- Gokdeniz Karadag
- Kaan Kahraman
- Dogacan Guney
- Furkan Kuru
- Mustafa Coskun

# What is this about?

1. Problems in Web Usage

2. Existing Solutions

3. IronCurtain's Approach

4. IronCurtain's Details

5. What is Next

# Problems in Web Usage

- User Distraction
- Hostile Actions
- Leakage of Sensitive Information
- Bandwidth and Resource Misuse

# **Existing Solutions**

- **Aladdin eSafe**
- **WebSense**
- **Willow**
- **WebCleaner**

# **IronCurtain's Solution**

## **...PLUG-INS...**

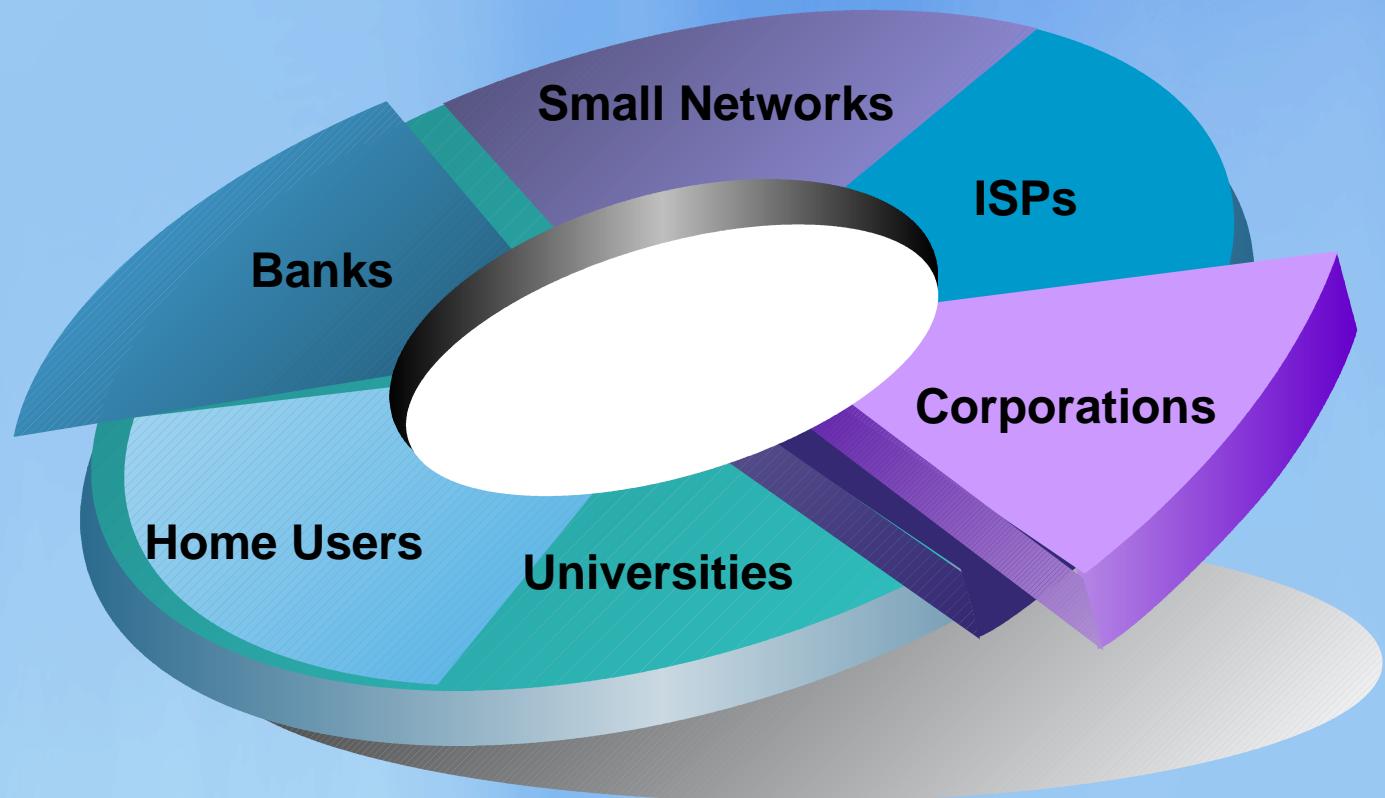
**Because**

- Internet and threats evolve**
- New control needs arise**
- New capabilities are needed**

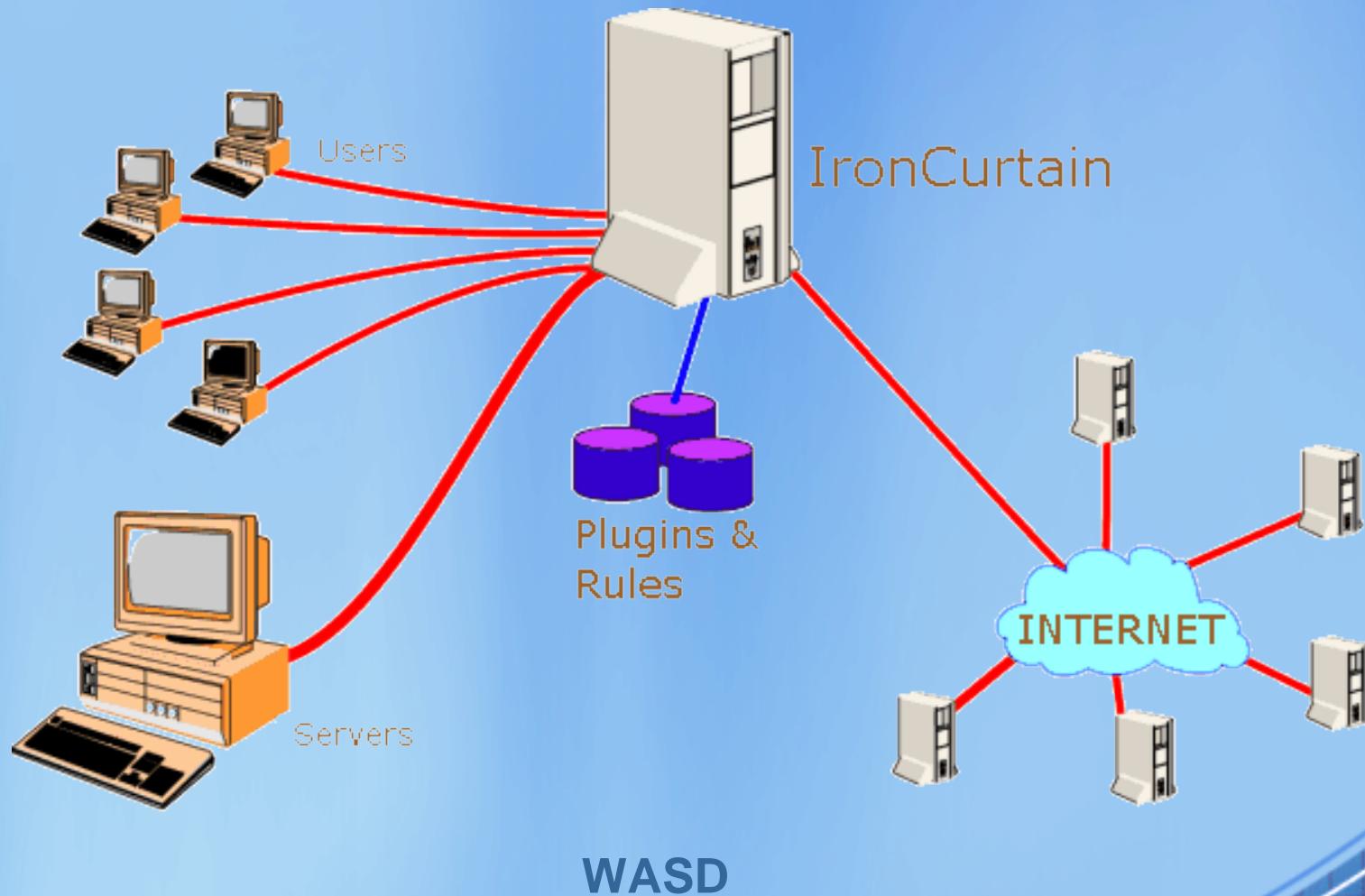
# **IronCurtain's Core Abilities**

- **Extendibility**
  - Extensive usage of plugins
  - Easily add new plugins
- **Portability**
  - Architecture independent
  - OS independent
- **Performance**

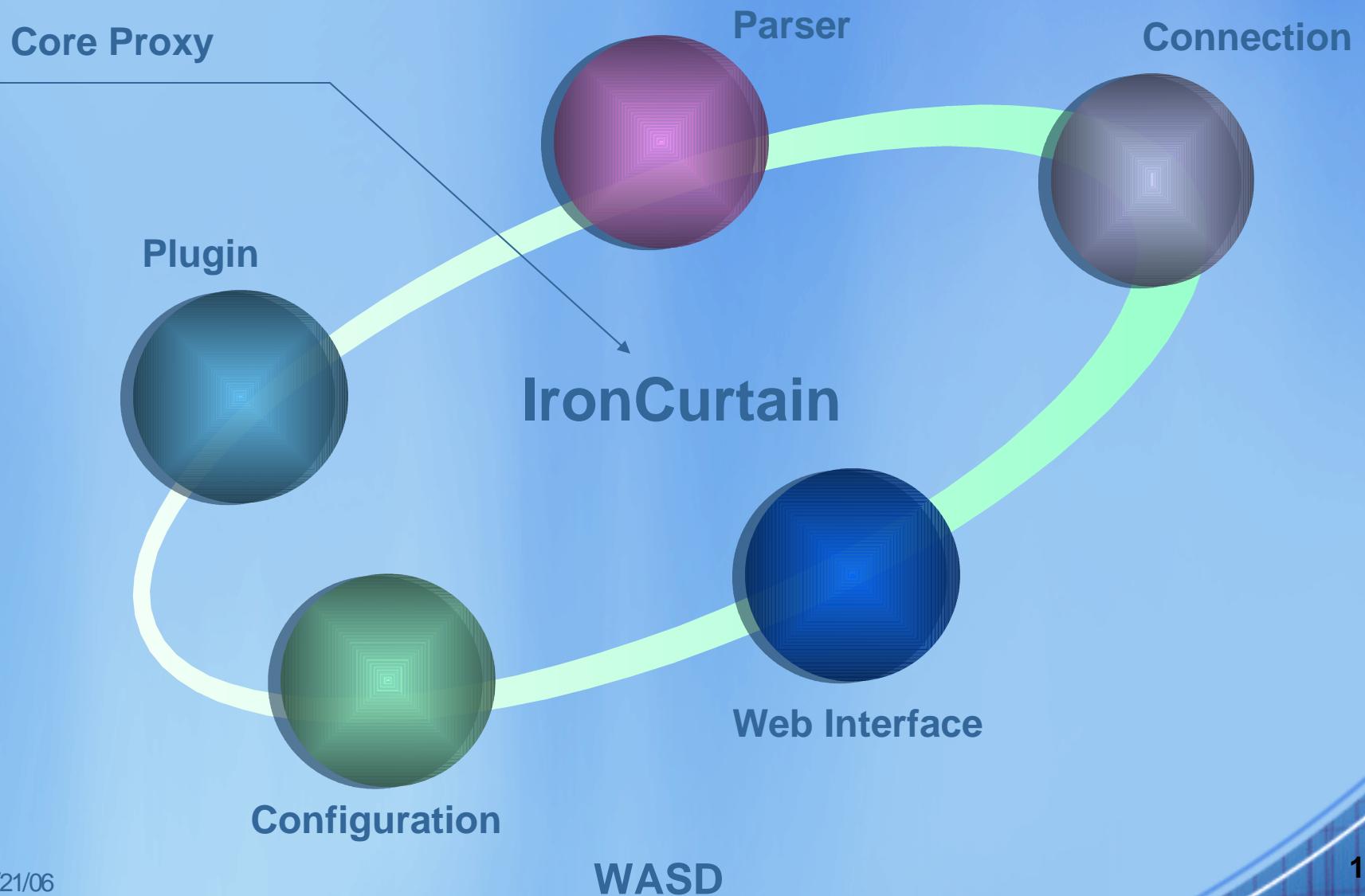
# Usage Areas



# How IronCurtain Works



# Main points of IronCurtain



# What are Plugins

- **Plugins are mechanisms**
  - Define templates of “rules”
- **Rules are actions**
- **Any kind of action possible**
  - Accept, Block, Redirect
  - Change content (Headers, Body etc)
  - Consult a Database
  - ...

# What can IronCurtain do?

- Keyword based filtering
- White-list Black-list approach
  - Defined by the administrator
  - Updated over Internet
- Block images, Flash, ActiveX, Javascript

# What can IronCurtain do?

- Anonymizing
- Sanitizing annoying web pages
  - Pop-up windows, blink and marquee tags
- Control bandwidth usage
- Optimize images to save bandwidth

# Under The Hood

- Complete HTTP/1.1 support
- HTTPS support
- Secure User Authentication
- Complete configuration over Web

# Under The Hood (Cont.)

- Plugin-based architecture for rules
- Multi-threaded implementation
- Extensive logging
- Statistical Reports using queries

# Web Interfaces

The screenshot shows the IronCurtain web interface. At the top, there is a navigation bar with the title "IronCurtain" and five menu items: Plugins (green), Rules (yellow), Users/Groups (red), Statistics (purple), and Settings (green). Below the navigation bar, a header box displays "Welcome to IronCurtain" and the date/time "04.12.2005 Sunday, 23:57:48". The main content area contains several status metrics:

- Uptime: 23 days, 13 hours, 23 minutes, 38 seconds
- Total Bandwidth: 500GiB upstream, 1256GiB downstream
- Active Users: Current 23, Maximum 78

Two side panels are visible:

- Plugin Summary**: Active: 12, Inactive: 27, Raised Alarms: 8 ([Go to alarms](#))
- 5 Last Applied Rules**: A placeholder for rule logs.

A large red-bordered button at the bottom right says "Deactivate IronCurtain".

# Web Interfaces

The screenshot shows the IronCurtain web interface. The top navigation bar includes the logo "IronCurtain" and menu items: Plugins & Rules (highlighted in green), Users/Groups (highlighted in red), Statistics (highlighted in purple), and Settings (highlighted in blue). The main content area is titled "Manage Plugins & Rules" and displays the date and time "04.12.2005 Sunday, 23:57:48". A dropdown menu labeled "Select User Or Group" is open. Below it, there are two lists: "Active Rules" on the left and "Inactive Rules" on the right. Between them are four buttons: '>', '<', '>>', and '<<'. At the bottom of the main content area are two buttons: "Add New Rule" and "Add New Plugin".

# Web Interfaces

The screenshot shows a web-based administration interface for 'IronCurtain'. The top navigation bar includes links for 'Plugins & Rules' (highlighted in green), 'Users/Groups' (highlighted in red), 'Statistics' (highlighted in purple), and 'Settings' (highlighted in green). The main content area is titled 'Manage Users & Groups' and displays the date and time as '04.12.2005 Sunday, 23:57:48'. On the left, a sidebar lists 'Users' with three entries: 'Nurettin Yilmaz', 'Thomas Anderson', and 'Nurettin Kahraman'. To the right, there are fields for managing groups: a dropdown menu labeled 'Group', a button 'Assign to Group', a field for 'Group Name', and a button 'Add New Group'. At the bottom left of the main content area is a button 'Add New User'.

# Web Interfaces

The screenshot shows a web-based management interface for 'IronCurtain'. The top navigation bar includes links for 'Plugins & Rules' (highlighted in green), 'Users/Groups' (highlighted in red), 'Statistics' (highlighted in purple), and 'Settings' (highlighted in green). The main content area is titled 'Manage General Settings' and displays the date and time as '04.12.2005 Sunday, 23:57:48'. It contains two main sections: 'General Gateway Settings' (with fields for Port and Hostname) and 'Administrators' (listing Nurettin Yilmaz, Thomas Anderson, and Nurettin Kahraman). A red-bordered button at the bottom left is labeled 'Deactivate IronCurtain'.

General Gateway Settings	
Port	<input type="text"/>
Hostname	<input type="text"/>

Administrators	
Nurettin Yilmaz	
Thomas Anderson	
Nurettin Kahraman	

Deactivate IronCurtain

# Development Environment

- Python programming language
- Eclipse (with PyDev plugin)
- Python's Libraries
- GNU/Linux and Windows

# What is next?

- Final Design Report
- Implementation of the ‘Core’ proxy
- Basic Plugins
  - Keyword filtering
  - Header replacement

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**Thank you for listening.**

**Questions ?**