



**Get Started with Performance Engineering**  
**Kelvin Silva**

# Development vs Production

Haters Gonna Hate



Horses Gonna Horse



# What is Performance Engineering?

It is a set of techniques applied during a system life cycle to ensure the non-functional requirements for performance are ok

# What is Performance Engineering?

- It avoids rework
- It reduces system maintenance costs due to performance issues
- It identifies future bottlenecks

# This Co\$t\$

- Production Environment = Performance Environment



- It costs... but It is cheaper than the problems you are avoiding!



# Choose and Study the tools



# Performance Testing

- Performance Testing

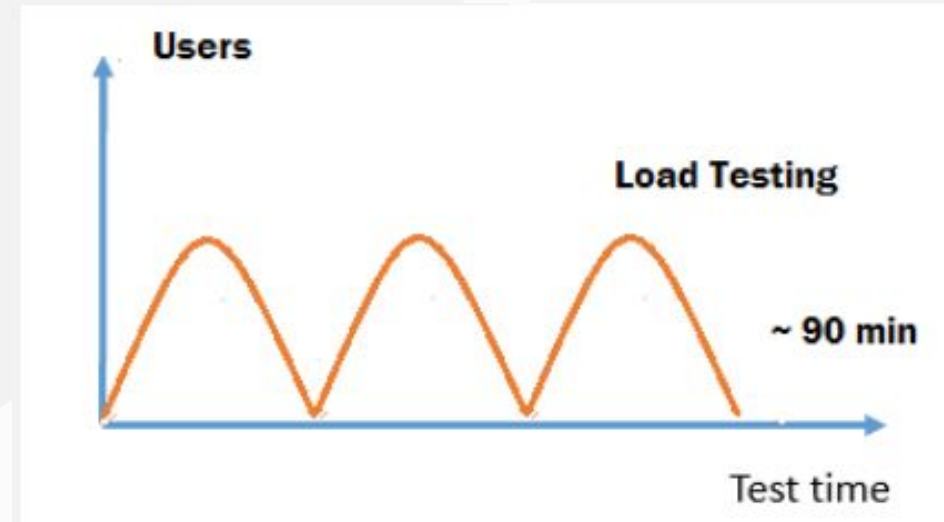
It's a practice performed to determine how a system performs in terms of responsiveness and stability under a particular workload. We use it to investigate, measure, validate and verify the quality of the system.



# Performance Testing

- Load Testing

This is conducted to understand the behaviour of the product under a specific expected load of users doing actions as normal users.

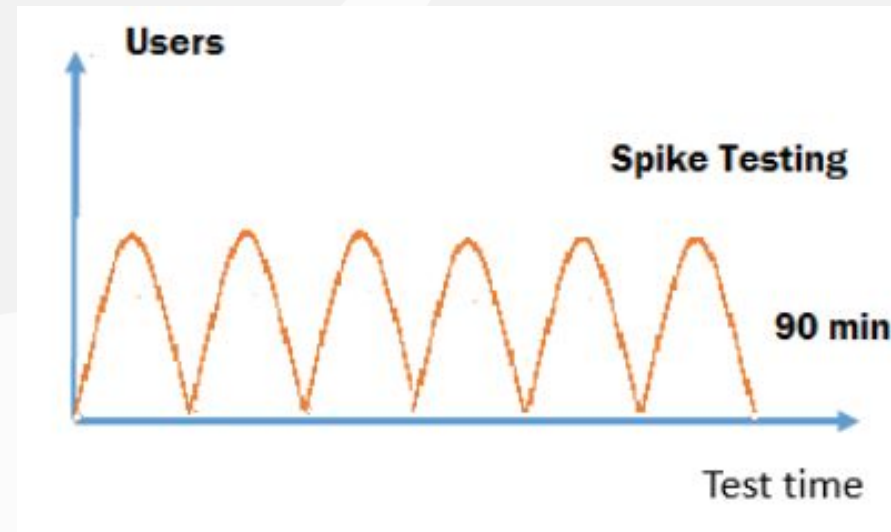




# Performance Testing

- Spike Testing

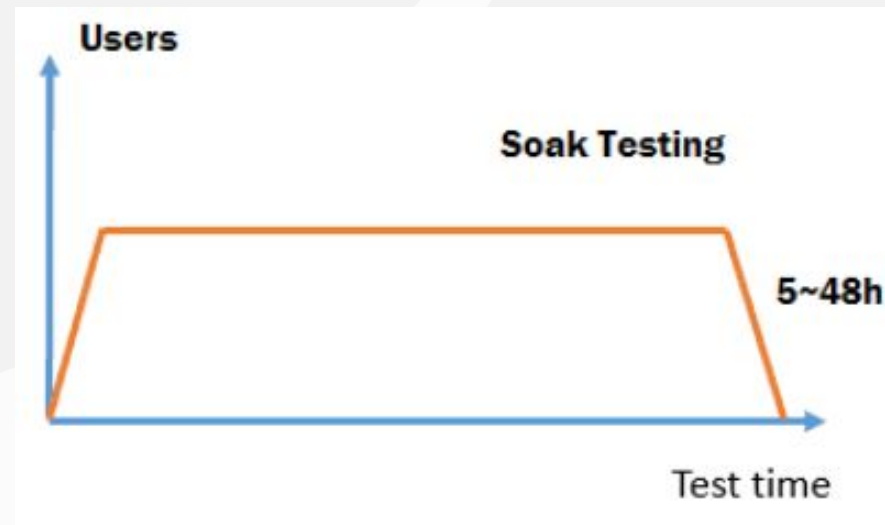
This is used to identify how the performance will suffer with a very large number of users doing much more actions than normal users.



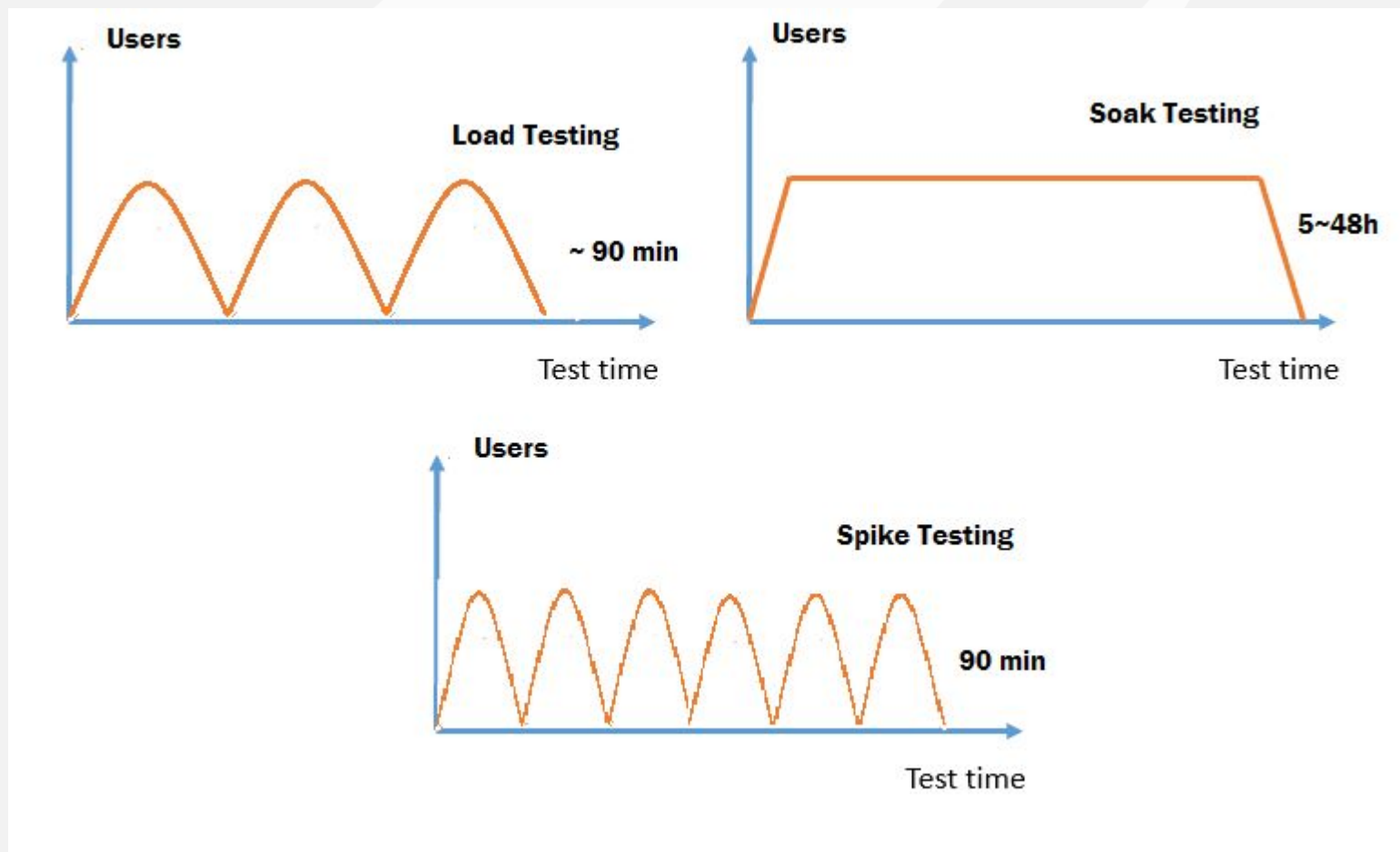
# Performance Testing

- Soak Testing

This is an endurance testing to determine if the system can sustain the continuous expected load during a specified period of time.



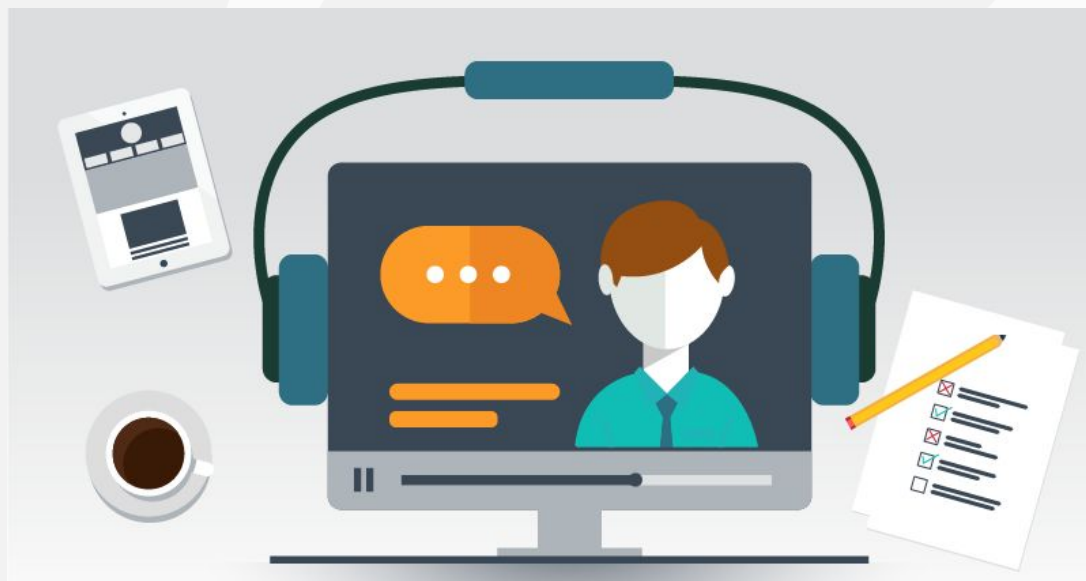
# Performance Testing: Know your clients



# Know your Clients

## Webinar/Conferences

- Users join on the time of the meeting, usually 5 minutes late and all drop together



# Know your Clients

## Streaming

- Spike of users during the day, and a big spike when a hyped show/video is launched





# Know your Clients

## E-commerce

- Spike of users during the day, and a big soak during the blackfriday!



# KPIs - Key Performance Indicators

- Number of Users
- Hits/Calls per Second
- Errors per Second
- Response Time

# KPIs - Key Performance Indicators

- Server Connect Time
- Throughput
- Number of Webinars, of Game Rooms, Videos watched on the same time, chats...

# Data Engineering



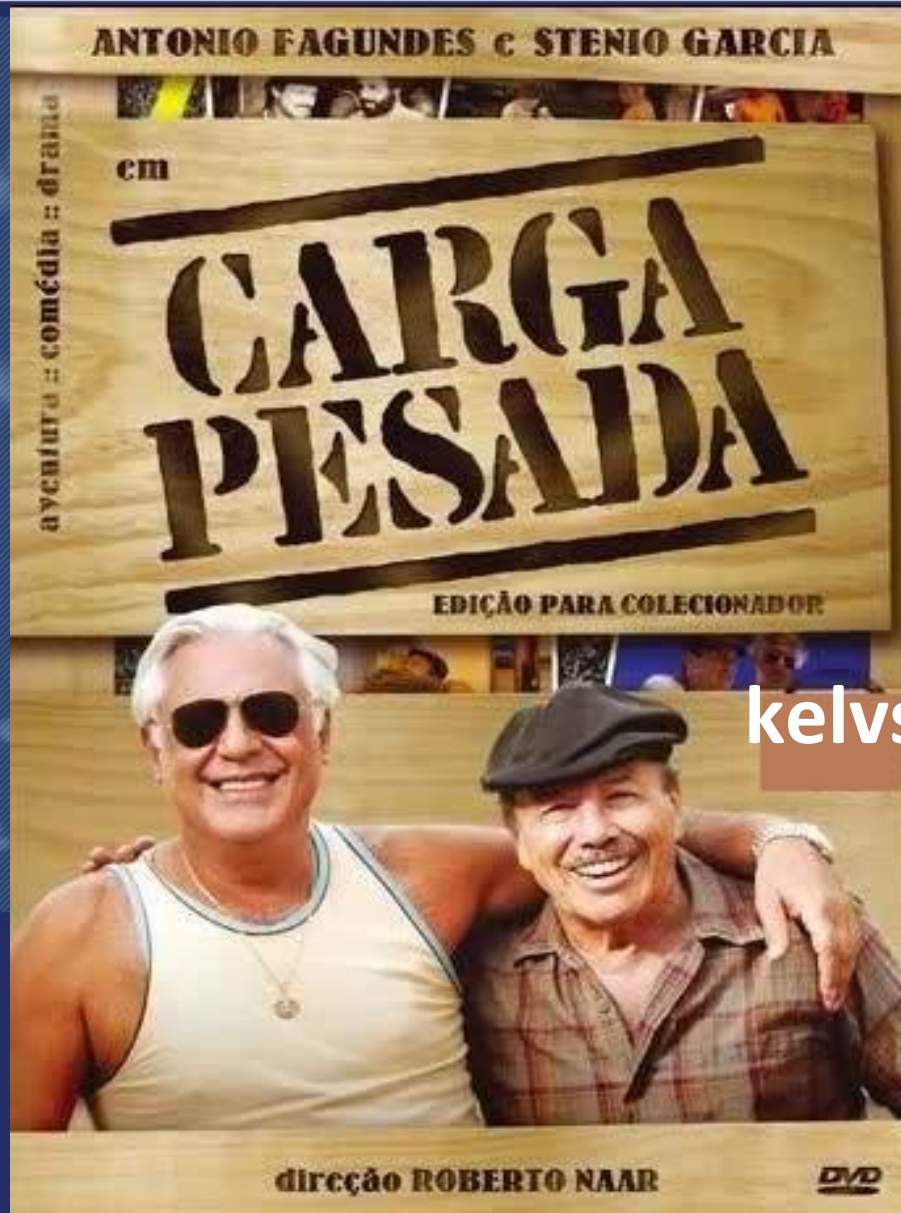
# Automate!

- What are your users doing during the week?
- How are your system during the week?
- The product delivered by last sprint  
x  
The product of this sprint



# Do Not Do These Things When Doing Performance Testing

- Tests in production environment;
- Crashing the performance environment;
- Unreal load profiles;



THANK YOU!

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