UI testing with Selenium Grid on Xamk Virtual Lab

Xamk QA Workshop

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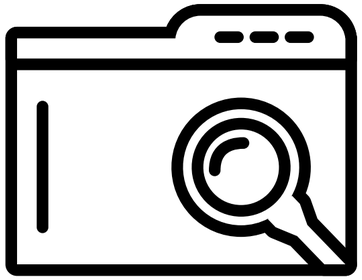
tämä esitys on tehty osana Ohjelmistojen laadunvarmistuspajan perustaminen -hanketta, joka on saanut Etelä-Savon maakuntaliiton myöntämänä rahoitusta Euroopan aluekehitysrahastosta

WHAT IS SELENIUM GRID?

Automation Testing

Automate web browser

replicate user interaction with web applications, such as visiting URL, clicking buttons, or text input



UI testing tool

Originally developed for automation testing purposes. Verify that the web application works as it's expected.

Selenium Project

One of the tools of Selenium framework, which is an open-source project.

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WHY IS IT USEFUL?

Cross-Platform &Cross-Browser

Support for various browsers&OS

Parallel Testing

support for various programming languages

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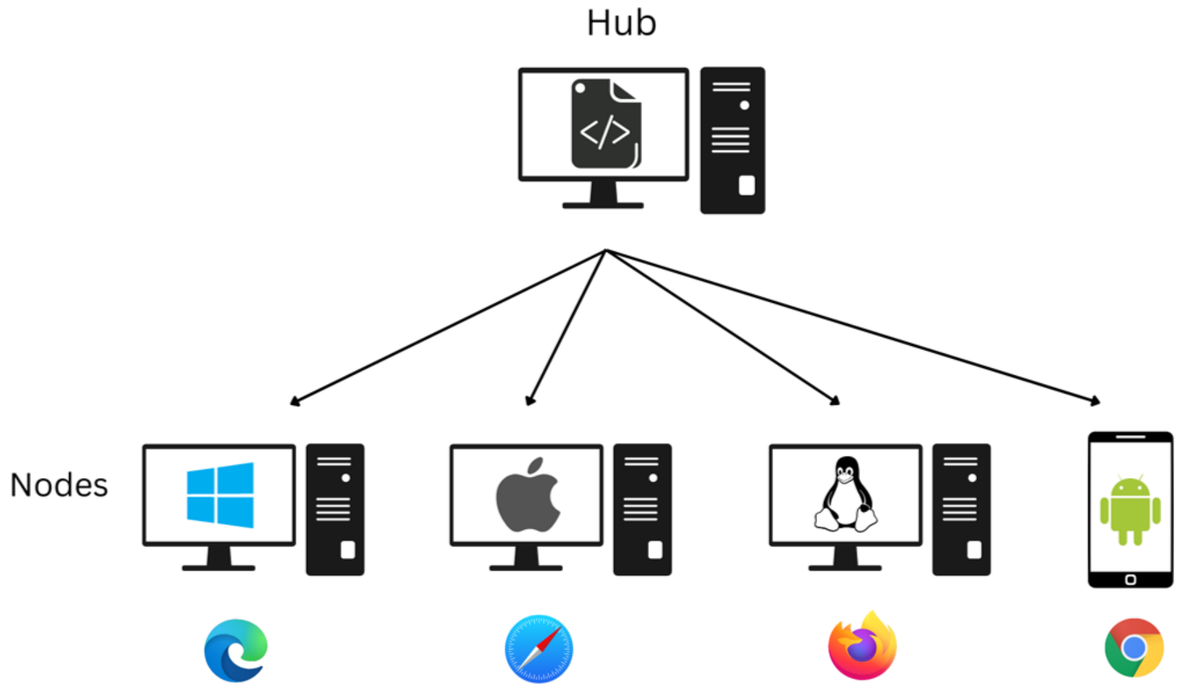
HOW SELENIUM GRID WORKS?

Hub

- central control point of Grid
- manages test execution

Node

- receive instructions from hub
- responsible for executing test scripts



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SELENIUM GRID WITH XAMK VIRTUAL LAB

Require multiple devices or VMs

- Costly to build Grid environment
- Complex to maintain hub &nodes

+

Suitable for handling multiple VMs

- Open for Xamk students
- Users can run multiple VMs online
- Simple to network machines

Efficiently arrange a budget-friendly Selenium Grid setup

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TESTCASE WITH MEDIAMAISTERI

MediaMaisteri

IT company providing online training environment, support for leaning content creation, and consultation service.

Web Application

Leaning Platform based on Moodle, which is open-source learning management system

Test Environment

- Selenium Grid set up in Xamk Virtual lab
- One hub machine and three node machines
  → Linux, Win10, Win11
- Chrome, Firefox, MS Edge

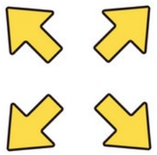
Test

No specific test scope offered by company
→ Automate basic features of the application

CONCLUSION

Joint utilization was effective

Utilizing Virtual Lab made it smooth to create and network hub-nodes relation of Selenium Grid.



Easy to extend test scope

User can add other virtual machines to the scenario easily, making it simple to extend test scope.

Optional internet connection

Possibility of creating the scenario isolated from internet connection, which reduces the risk of information leak.

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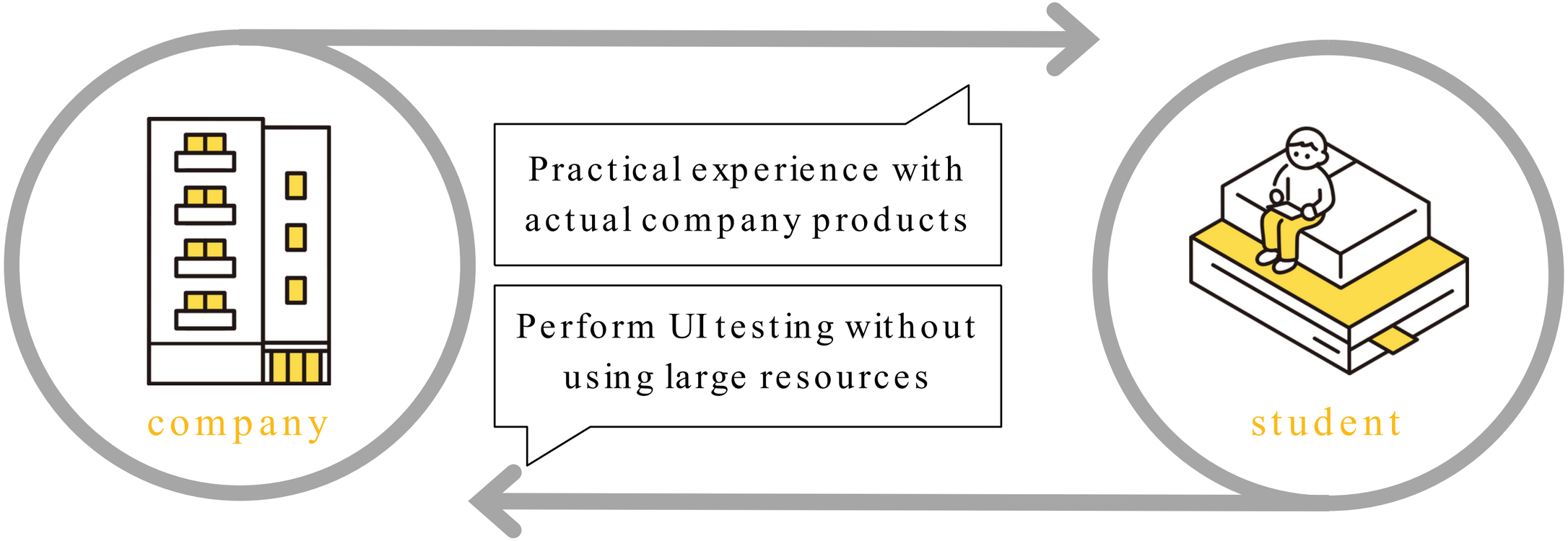
FUTURE DEVELOPMENT

We hope for strong interest from companies in engaging in these collaborations, promoting an active environment of frequent interactions.



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XAMK

Tunne huominen - All for the future.