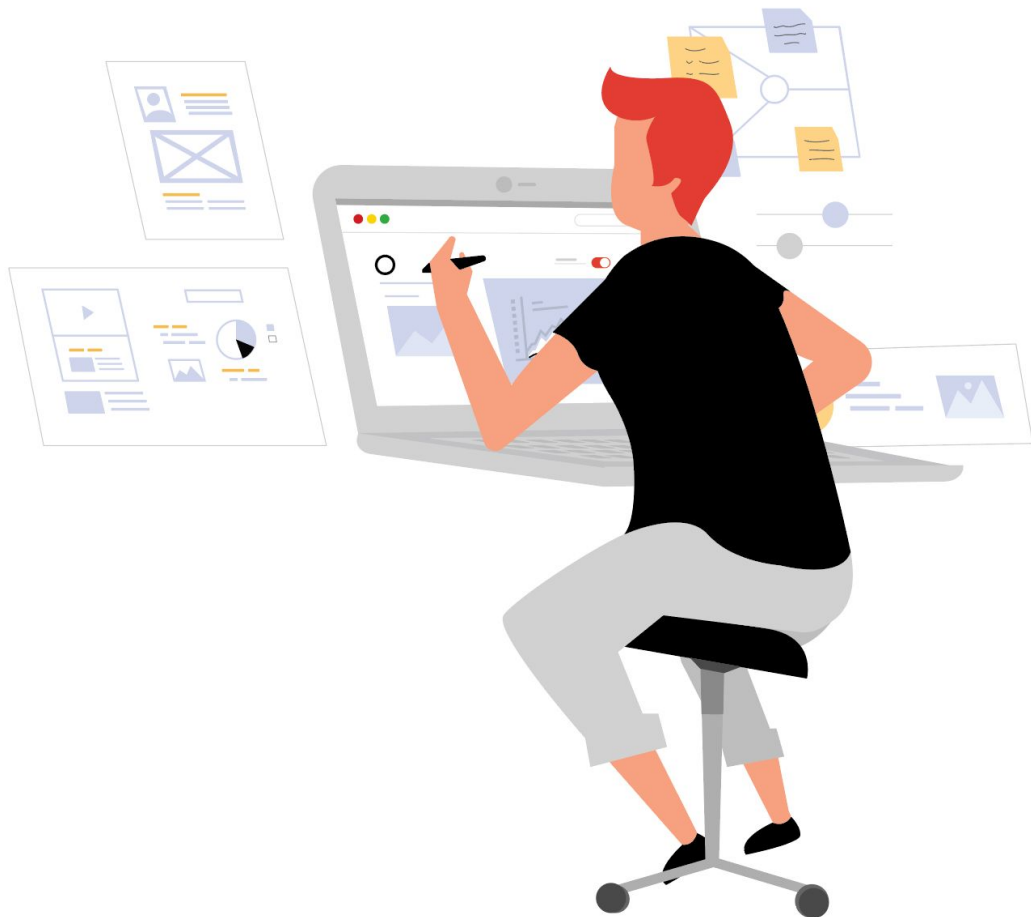


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Introduction to DevOps and Design Systems

Marko Klemetti
CTO

10.12.2019



Eficode in a Nutshell

Eficode is a Nordic DevOps, software, and UX consultancy company. At more than 300 experts, we are building the future of software development by automating everything and setting free creativity and business results.

Our vision is to be a leading European company building the future of software development.

As the trusted advisor of companies wanting to build better software faster, our track record since 2005 speaks for itself. Eficode has offices in Finland, Sweden, Denmark, Norway, Germany & the Netherlands.

Eficode was chosen **Tivi company of the year 2019.**

Tivi is a Finnish IT sector trade publication covering technology, tools and global IT news.

330

PROFESSIONALS

97%

CUSTOMER SATISFACTION

30M€

TURNOVER

100+

ANNUAL PROJECTS

2007

10+ YEARS OF DEVOPS

10

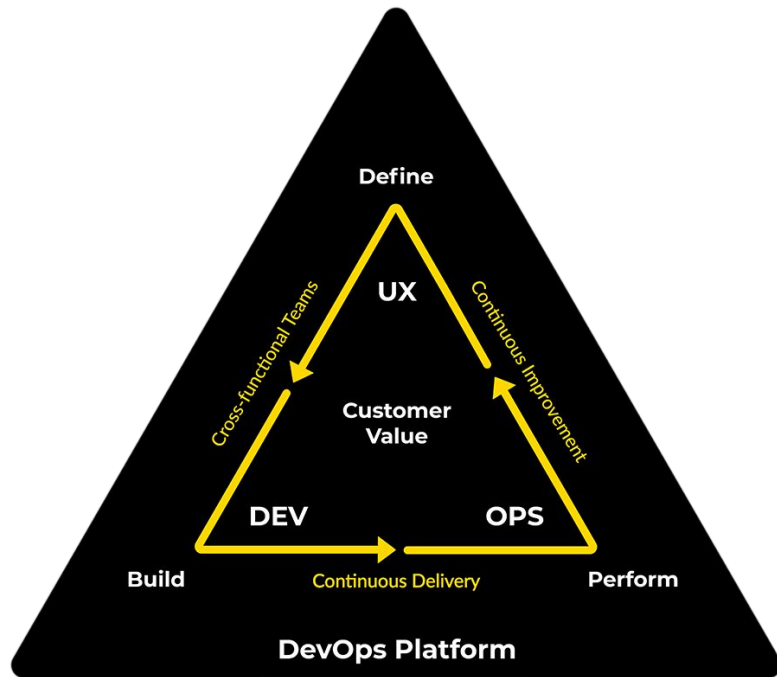
EUROPEAN OFFICES

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One definition of DevOps

DevOps is the capability to deliver customer value faster and at a better quality. It focuses on building a culture of trust, collaboration and learning while harnessing modern tools for automation and cloud.

DevOps empowers decision makers with meaningful information about products and services which fuels innovation.



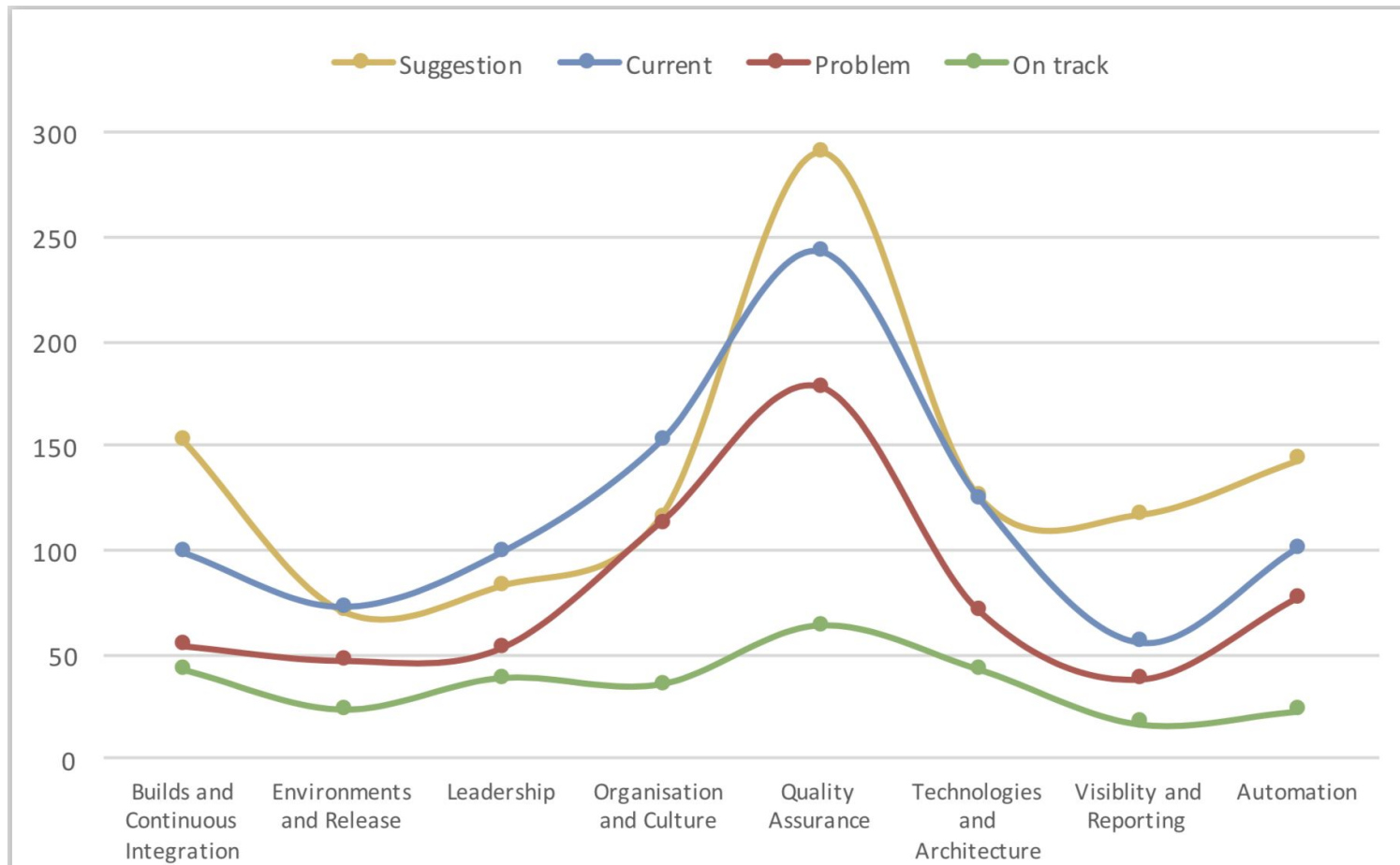
Devops Maturity

“Adoption of DevOps Practices in the Finnish Software Industry: an Empirical Study”

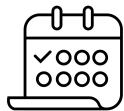
Thesis work of Paul Laihonen,
Senior Devops Consultant
@Eficode

Table 2: Data subjects used in this thesis

Organisation	Industry	Organisation size	Number of interviewees	Maturity scoring	
				DevOps	Automation
MediaCom1	media	medium	5	14	17
MediaCom2	media	medium	6	56	46
ConstCom1	construction	large	6	50	48
HeavyCom1	heavy industry	medium	9	57	56
HeavyCom2	heavy industry	large	20	36	39
TeleCom1	tele	large	11	68	78
TeleCom2	software	large	15	49	46
SoftCom1	software	small	13	50	49
SoftCom2	software	medium	9	94	92
SoftCom3	software	medium	6	43	36
SoftCom4	software	small	5	43	56
SoftCom5	software	small	9	32	33
SoftCom6	software	medium	5	43	48
SoftCom7	software	medium	8	57	62
SoftCom8	software	small	4	50	47
EleCom1	electricity	small	5	82	79
MediCom1	medical	medium	14	71	74
HealthCom1	healthcare	large	10	48	44
PensiCom1	pension	large	8	50	47

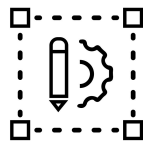


Digital Development Trends Today



Zero Day Delivery

Release cycles are moving from weeks to seconds using Continuous Delivery



Design System + DevOps

Extensive automation and an evolving delivery pipeline are based on a functional Design System.



Actionable Insights

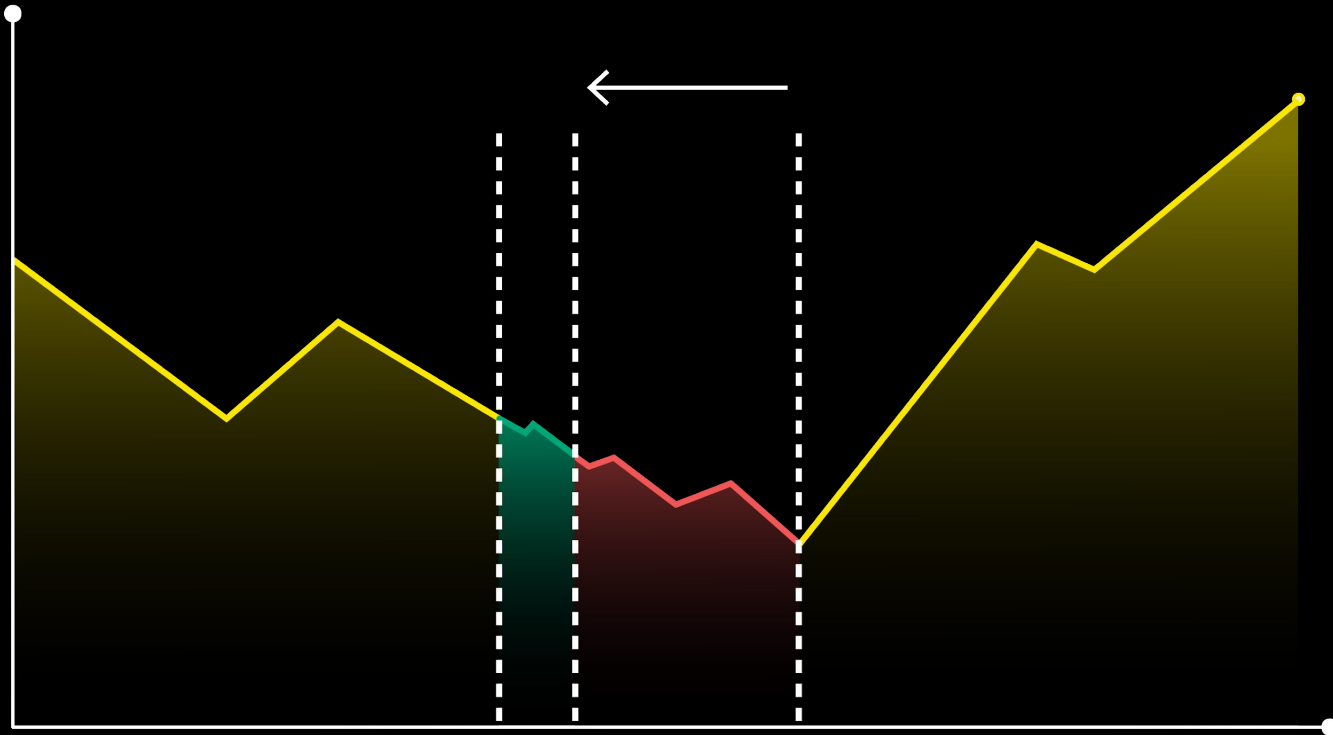
Performance and business value are connected to development and operations metrics. It is the basis for insights that support steering projects and the whole organization.



Cloud is provided as self-service

Cloud has become mainstream and services are evolving into organization-wide self-services. This also enables self-organized teams.

Towards Zero Day Delivery





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DevOps (and Test Automation) have become an executive target

CD STATUS FOR PROJECT



Project name

Release

31. 9. 2019

(45 days left)

Quality

🟢 Ok ↗

+5% test coverage

Schedule

⚠️ Panic ↘

Estimated 15% late

Project name

Release

31. 9. 2019

(45 days left)

Quality

🟢 Ok ↗

+5% test coverage

Schedule

⚠️ Warn ↘

-4% later

Project name

Release

31. 9. 2019

(45 days left)

Quality

🟢 Ok ↗

+5% test coverage

Schedule

🟢 Ok ↗

+15% fater

Project name

Release

31. 9. 2019

(45 days left)

Quality

🟢 Ok ↗

+5% test coverage

Schedule

🟢 Ok ↗

+15% fater

THIS WEEK



Tests

+10%

▲ 2%

Debt

-21%

▼ 5%

Title

+10%

▲ 2%

Tests

+10%

▲ 2%

Debt

-21%

▼ 5%

Title

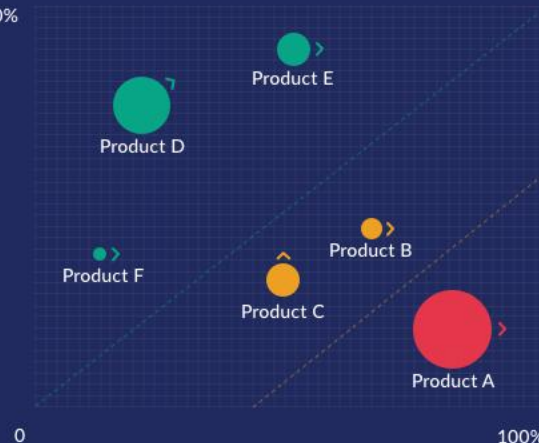
+10%

▲ 2%

PRODUCT DELIVERY STATUS



100%



0

100%

FEED



- Project B delivered release a9b778

Project A

1 mins ago

- Production A fixed at 11:20 AM

Project B

24 mins ago

- Project A shutdown at 11:12 AM

Project A

32 mins ago

- Some other incidents related messages

Project A

1 hour ago



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**Work is done in
self-organized,
independent teams**



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**Organizations build
bridges instead of
ferries**



ACCESS
CONTROL



ANALYTICS



MONITORING



VERSION
CONTROL



CODE
ANALYSIS



BINARY
STORAGE



ARTIFACT
SCANNING



AUTOMATED
TESTING



AUTOMATED
DEPLOYMENT



CONTINUOUS INTEGRATION & DEPLOYMENT



DOCUMENT MANAGEMENT & TEAM COMMS



REQUIREMENTS & PROJECT MANAGEMENT



ENVIRONMENTS



CLOUD



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**Cloud is mainstream
and has evolved into a
self-service.**



hopefully
Default

Workloads

Catalog Apps

Resources

Namespaces

Members



Workloads

Load Balancing

Service Discovery

Volumes

Pipelines



Import YAML

Deploy

Redeploy

Pause Orchestration

Download YAML

Delete

Search



State

Name

Image

Scale

Namespace: default



Active

designsystem-backend
30503/tcp



mrako/designsystem-backend:f490587
2 Pods / Created 8 months ago



2



Active

designsystem-db



postgres:alpine
1 Pod / Created 8 months ago



1



Active

designsystem-frontend
31112/tcp



mrako/designsystem-frontend:f490587
2 Pods / Created 8 months ago



2



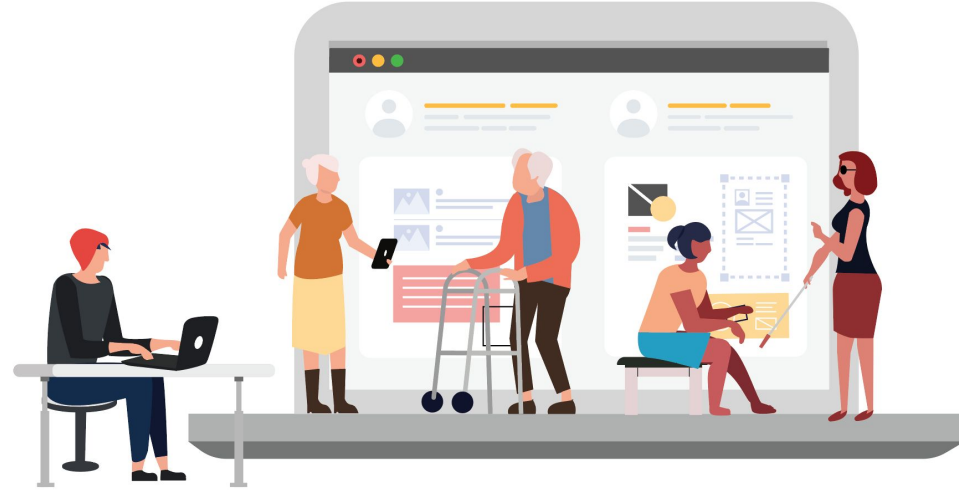


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**Design and Devops
are moving closer
together**

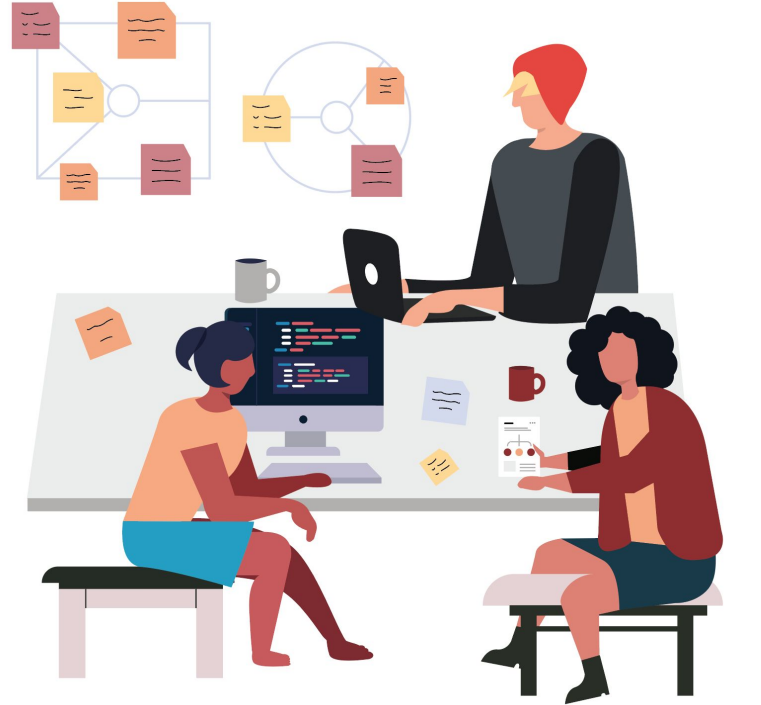
Why Design Systems are Popular Today?

- Uniform voice, identity and styles
- Kickstarting new innovations faster and with existing assets
- Updating applications across organization with new features
- Scaling by distribution; teams work on a single system instead of all on their own



What modern Design Systems (usually) lack?

- Practices to develop, implement and share the design system
- Tested code components for selected technologies
- Acceptance test templates and keywords
- Connection to delivery pipeline
- Support for modern practices like pull requests, security audits and linting





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**Create and share
common
components,
including tests.**

<> Code

! Issues 47

🔗 Pull requests 10

📁 Projects 0

📖 Wiki

🛡 Security

📊 Insights

Component code and tests for the Australian Government design system <https://auds.service.gov.au>

design-systems

government

javascript

sass

react

design

css

auds

components

📁 2,470 commits

🔗 18 branches

📦 0 releases

👤 25 contributors

📄 MIT

Branch: master ▾

New pull request

Create new file

Upload files

Find File

Clone or download ▾



sukhrajghuman Merge pull request #866 from govau/develop ...

Latest commit 2d6ea8a 14 days ago



.circleci

Use cloud.gov.au naming convention for env vars in circleci

2 months ago



.deploy

Added proper no-cache headers to all file requests

4 months ago



.github/ISSUE_TEMPLATE

Renamed uikit -> design-system-components

7 months ago



Uutta motivaati opettamisen ta itselleen hyvä



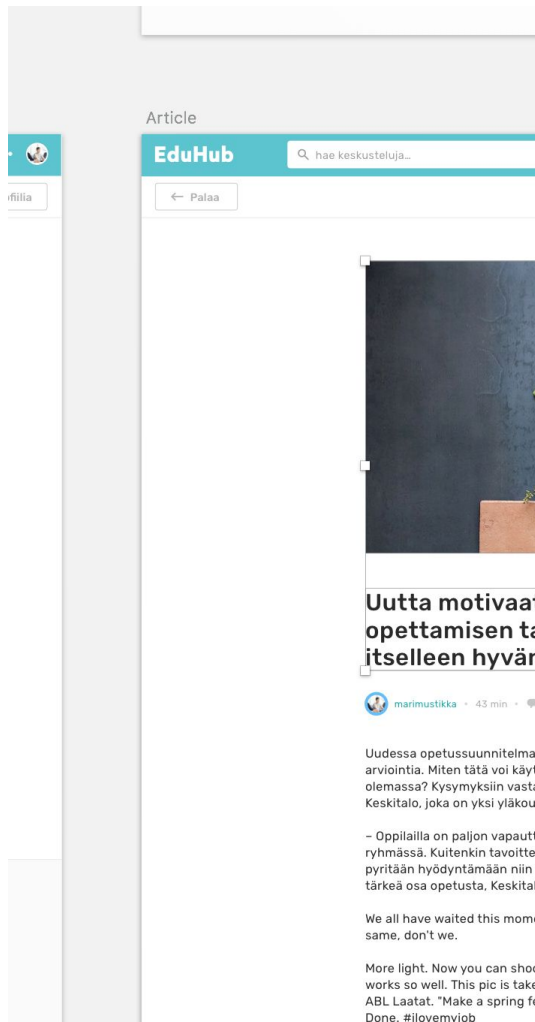
marimustikka · 43 min · 🗨️

Uudessa opetussuunnitelma
arviointia. Miten tätä voi käyt
olemassa? Kysymyksiin vast
Keskitalo, joka on yksi yläkou

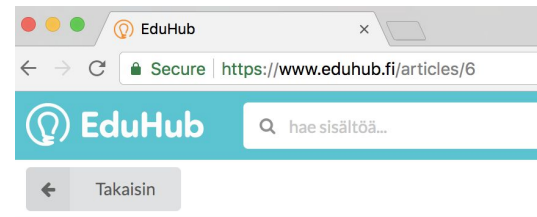
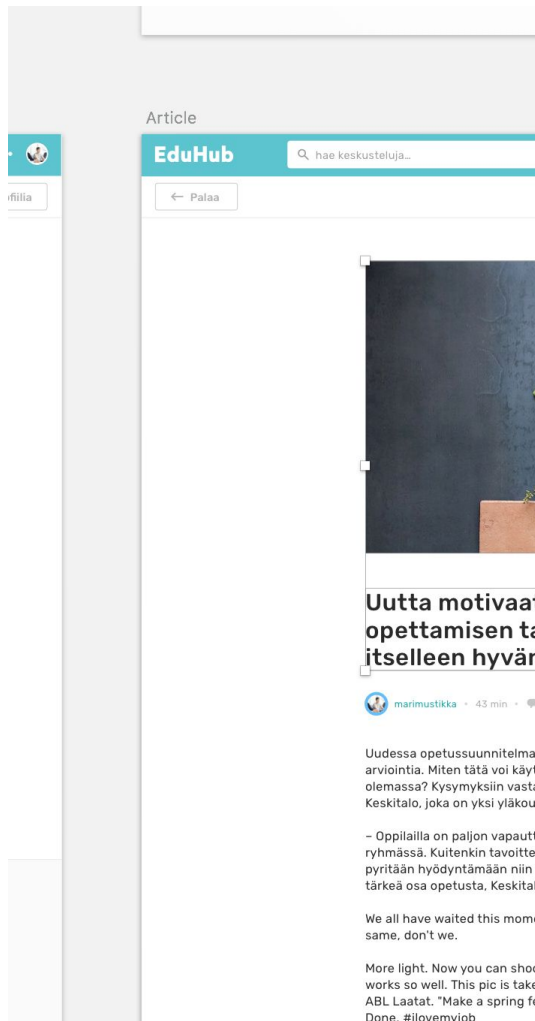
– Oppilailla on paljon vapautt
ryhmässä. Kuitenkin tavoitte
pyritään hyödyntämään niin
tärkeä osa opetusta, Keskital

We all have waited this momen
same, don't we.

More light. Now you can show
works so well. This pic is take
ABL Laatat. "Make a spring fe
Done. #ilovemviob



```
render() {  
  const { user, article, comments, loading } = useQuery(  
    QUERY, { skip: !isLoggedIn })  
  
  if (!loading && article) {  
    return (  
      <div className="section-main">  
        <NavigationArticle user={user} />  
  
        <ScrollToTopOnMount />  
  
        <div className="article">  
          <ArticleImage article={article} />  
  
          <h1>{article.title}</h1>  
  
          <ArticleInfo article={article} />  
  
          <div className="article-comments">  
            <ArticleKeywords article={article} />  
          </div>  
  
          <div className="article-dividers">  
            <div className="divider-wrapper">  
              <Menu secondary>  
                <Menu.Item>{comments && comments.length > 0 ? 'Comments' : 'No comments'}</Menu.Item>  
              </div>  
            </div>  
          </div>  
        </div>  
      )  
    )  
  }  
}
```



Tutustumisleikkejä

 Annika Tahkokallio · a month ago · 0

1. "Mitä teit lomalla?" -piiri.

Seistään piirissä kasvot toisia vastapäätä kesälomalla. Samalla kun kertoo askeleen piirin keskustaa kohden. Nämä myös piirin keskustaa kohden. Näin asian lomalla (tässä tapauksessa koulukäynnin ulkopuolelle) ja seuraava vuorossa oli kävin Lapissa, söin salmiakkijäätelöä.

2. Nimi + liike

Istutaan piirissä. Jokainen kertoo nimen ja liikkeen. Se voi olla esim. käsien kuivatushypähdys jne. Tämän jälkeen muut.

3. Vierivä pallo

Istutaan piirissä. Opettajalla on pelipallo ja jonkin asian, mistä pitää esittää.



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**Build a high-level of
QA in teams. Testers
can write code.**

```

5  const helpers = require('./test-helpers');
6  const factories = require('./factories');
7
8  const agent = require('./agent')();
9
10 describe('User', () => {
11   before(async () => {
12     await database.sync({force: true});
13   });
14
15   beforeEach(async () => {
16     await helpers.logout(agent);
17   });
18
19   it('should get personal user information', async () => {
20     const user = await helpers.login(agent);
21
22     const response = await agent.get('/api/users/me');
23
24     assert.equal(response.body.email, user.email);
25   });
26
27   it('should get other user information', async () => {
28     await helpers.login(agent);
29
30     let otherUser = await factories.user();
31
32     const response = await agent.get(`/api/users/${otherUser.id}`);

```

```

→ [efifaq*][backend]
→ [efifaq*][backend] npm test

> eduhub-backend@0.0.1 test /Users/mrako/workspace/eduhub/backend
> DATABASE_URL=${DATABASE_URL:-postgres://eduhub:eduhub@localhost/eduhub_test}

Article
✓ should not return articles if not logged in
✓ should create new article information (842ms)
✓ should update article information (785ms)
✓ should return error for article not found (680ms)
List
✓ should return an article information
✓ should return a list of articles (73ms)
✓ should return a list of articles by searching by title
✓ should return a list of articles by searching by content
✓ should return a list of articles by excluding a tag (48ms)
Save
✓ should save an article for user (65ms)
✓ should return a list of saved articles (90ms)
Read
✓ should mark an article read for user (65ms)
Votes
✓ should be able to unvote an article (182ms)
✓ should be able to upvote an article (70ms)

Authorization
✓ should signup a new user (349ms)

Facebook Login
✓ should create new user and re-login (636ms)
✓ should be able to login to existing account (643ms)

Comment
✓ should be able to comment an article (675ms)
✓ should return a list of comments for an article (663ms)
Votes
✓ should be able to unvote a comment (254ms)
✓ should be able to upvote a comment (94ms)

```



```
1  *** Settings ***
2
3  Resource    ${CURDIR}/../resources/common.robot
4  Resource    ${CURDIR}/../resources/login-variables.robot
5
6  Test template    Login Should Fail With Incorrect Credentials
7  Suite Setup      Open browser and go to homepage
8  Suite Teardown   Close All Browsers
9
10
11 *** Test cases ***
12
13 Empty username    ${EMPTY}    ${VALID PASSWORD}
14 Wrong username    ${INVALID EMAIL}    ${VALID PASSWORD}
15 Wrong password    ${VALID EMAIL}    ${INVALID PASSWORD}
16 Wrong username and password    ${INVALID EMAIL}    ${INVALID PASSWORD}
17 Empty password    ${VALID EMAIL}    ${EMPTY}
18 Empty username and password    ${EMPTY}    ${EMPTY}
19
20
21 *** Keywords ***
22
23 Login Should Fail With Incorrect Credentials
24     [Arguments]    ${email}    ${password}
25     Login    ${email}    password
```



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**Automation helps
introducing new
practices.**

✓ design-system-example < 22

Pipeline

Changes

Tests

Artifacts



Logout



Branch: master

🕒 56s

No changes

Commit: —

🕒 20 days ago

Branch indexing



Deploy - 2s



[Restart Deploy](#)



> docker-compose -p design --project-directory . -f docker-compose.yml -f compose/test.yml -f compose/robot.yml down -v — Shell Script

<1s



> docker-compose -p design --project-directory . -f docker-compose.yml up -d — Shell Script

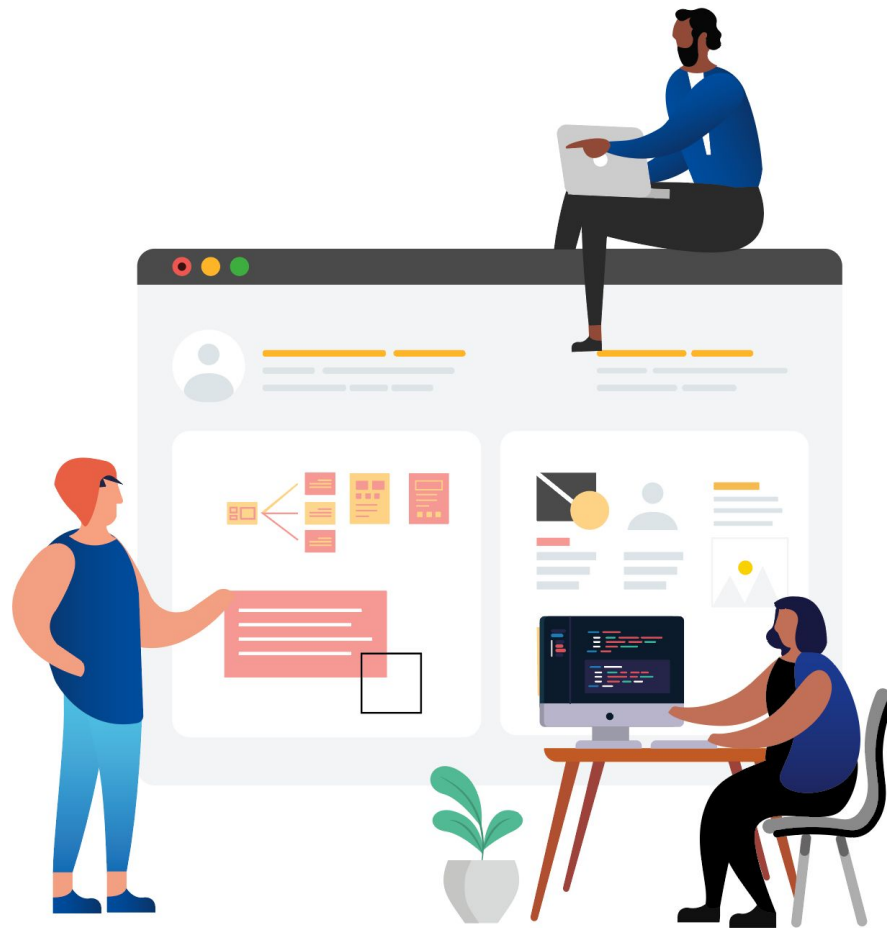
1s



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**Above all DevOps is
still more about the
culture than the tools.**

Demo



A grayscale photograph of a group of people sitting around a table in a meeting room, looking at documents. The image is dimly lit and serves as a background for the text.

For more information, contact:

Marko Klemetti
marko.klemetti@eficode.com