

# DHBW Community Dashboard

## final demo presentation

presented by team capyclue.

# agenda

vision

tech stack

architecture

quality assurance

CI/CD

statistics

project management

demo screenshots

vision

# vision

## the problem

- no DHBW(-Karlsruhe) app for all platforms
- many sources for trivial information
  - RAPLA
  - canteen
- cumbersome navigation of canteen website



# vision

## the concept

- intuitive dashboard app for every device
- single source of truth for DHBW students
  - RAPLA calendar integration
  - unified canteen menus

Hauptgerichte		Extras	
Gebratene Hähnchenkeule Peperonata in Paprikasoße Curryreis	Gebratene Sojastreifen Peperonata Beilage in Paprikasoße	Verschiedene Desserts	Grüner Mischsalat
Zusatz: Farbstoff  Allergen: Gerste Gluten Sellerie Senf Weizen	Zusatz: Farbstoff  Allergen: Gluten Sellerie Soja Weizen	Zusatz: Farbstoff  Allergen: Milch	Zusatz: Sellerie Senf
Zu diesem Gericht reichen wir frisches Obst oder Salat	VEGAN	VEGETARISCH	VEGAN
3,20€	3,20€	1,05€	0,90€

Mensa		Okt 24-30, 2022								
Montag, 24.10.										
<	>	< >	heute	Okt 24-30, 2022						
				Mo 24.10.	Di 25.10.	Mi 26.10.	Do 27.10.	Fr 28.10.	Sa 29.10.	So 30.10.
07:00										
08:00										
09:00	Vorlesung	Vorlesung	Vorlesung	Vorlesung						
10:00										
11:00										
12:00										
							Lernen			

# vision

## the outcome

- React and Java based web app
- calendar and canteen features
- adjustable to the user's liking
- lots of capybaras 'cause capybara



# tech stack

# tech stack

## documentation

- **Jira:** sprint planning, scrum board
- **Confluence:** team internal documentation
- **Wordpress:** weekly blog posts
- **Figma:** wireframing, designing



# tech stack

## infrastructure

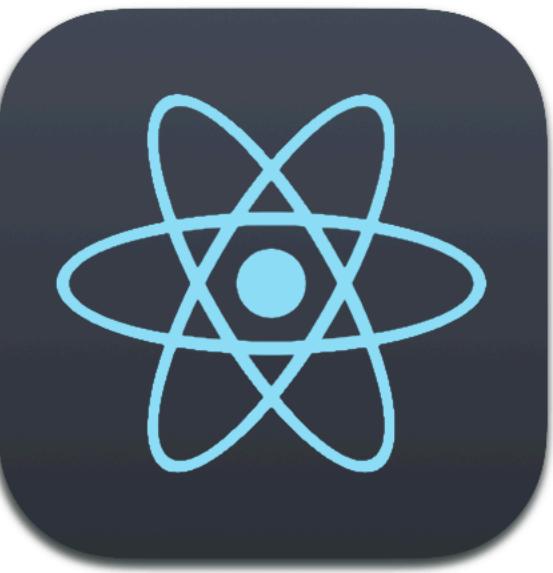
- **VSCODE:** frontend development
- **IntelliJ:** backend development
- **Docker:** containerization
- **GitHub:** repository, version control



# tech stack

## development

- **React:** JavaScript SPA library
- **React-Bootstrap:** frontend component collection
- **Auth0:** user authorization service
- **FullCalendar:** calendar library for React
- **Spring Boot:** Java framework
- **MariaDB:** relational database



# tech stack

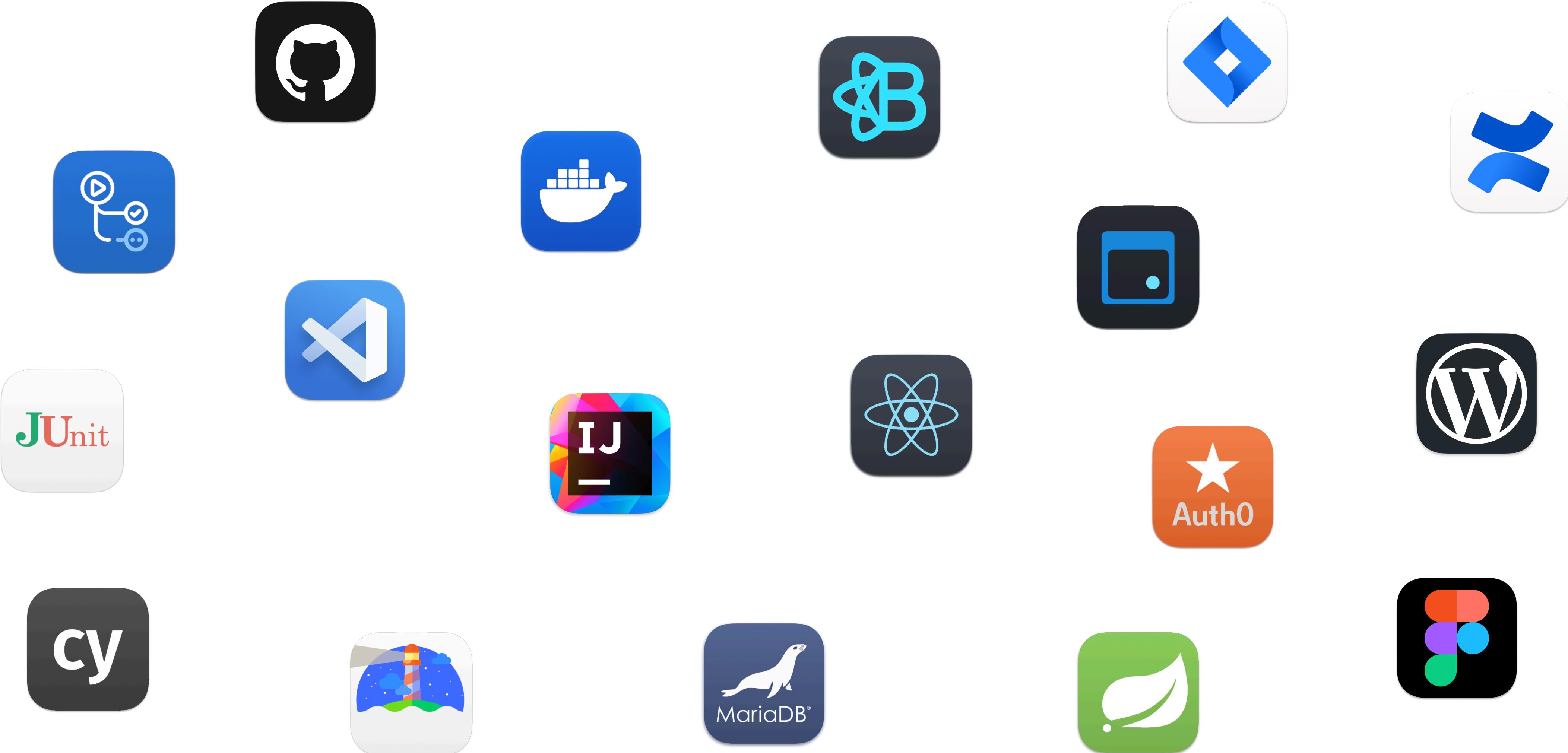
## testing and monitoring

- **GitHub Actions:** test automation
- **JUnit:** unit and integration tests
- **cypress:** frontend e2e tests
- **Lighthouse:** performance monitoring



# tech stack

## overview



architecture

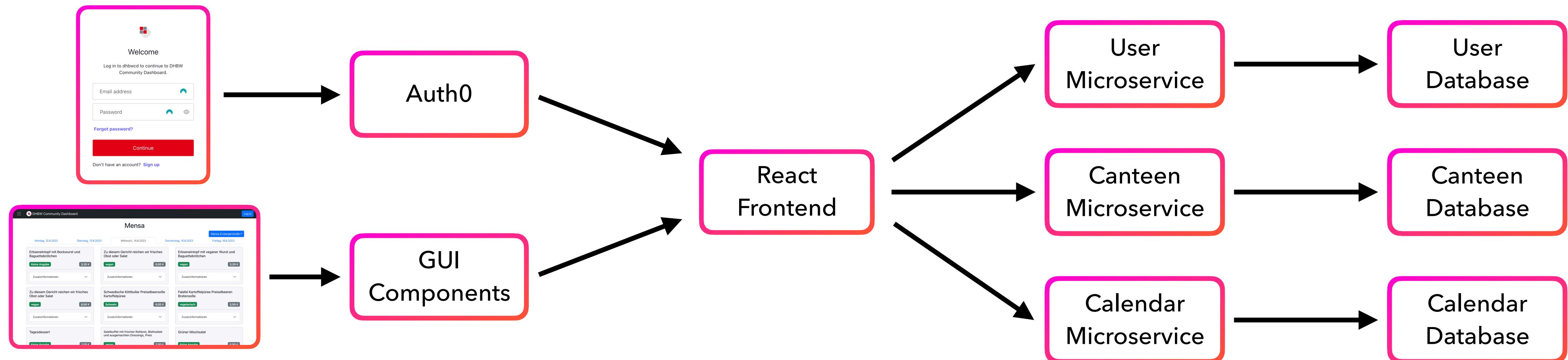
# architecture

## architecture decisions

- availability
  - minimal downtime → SPA, microservices
  - usable with bad connection → SPA, minimal data concept
  - app should survive a crash → domain isolation to microservices

# architecture

## overview



# architecture

## component vs microservice

Component

- reusable React elements
- atomic design
- Bootstrap collection
  - pre-configured components
  - customizable

Microservice

- MVC in Java Spring Boot
  - entity: represent DB table
  - controller: intercept requests
  - service: business logic
  - repository: CRUD methods

quality assurance

# quality assurance

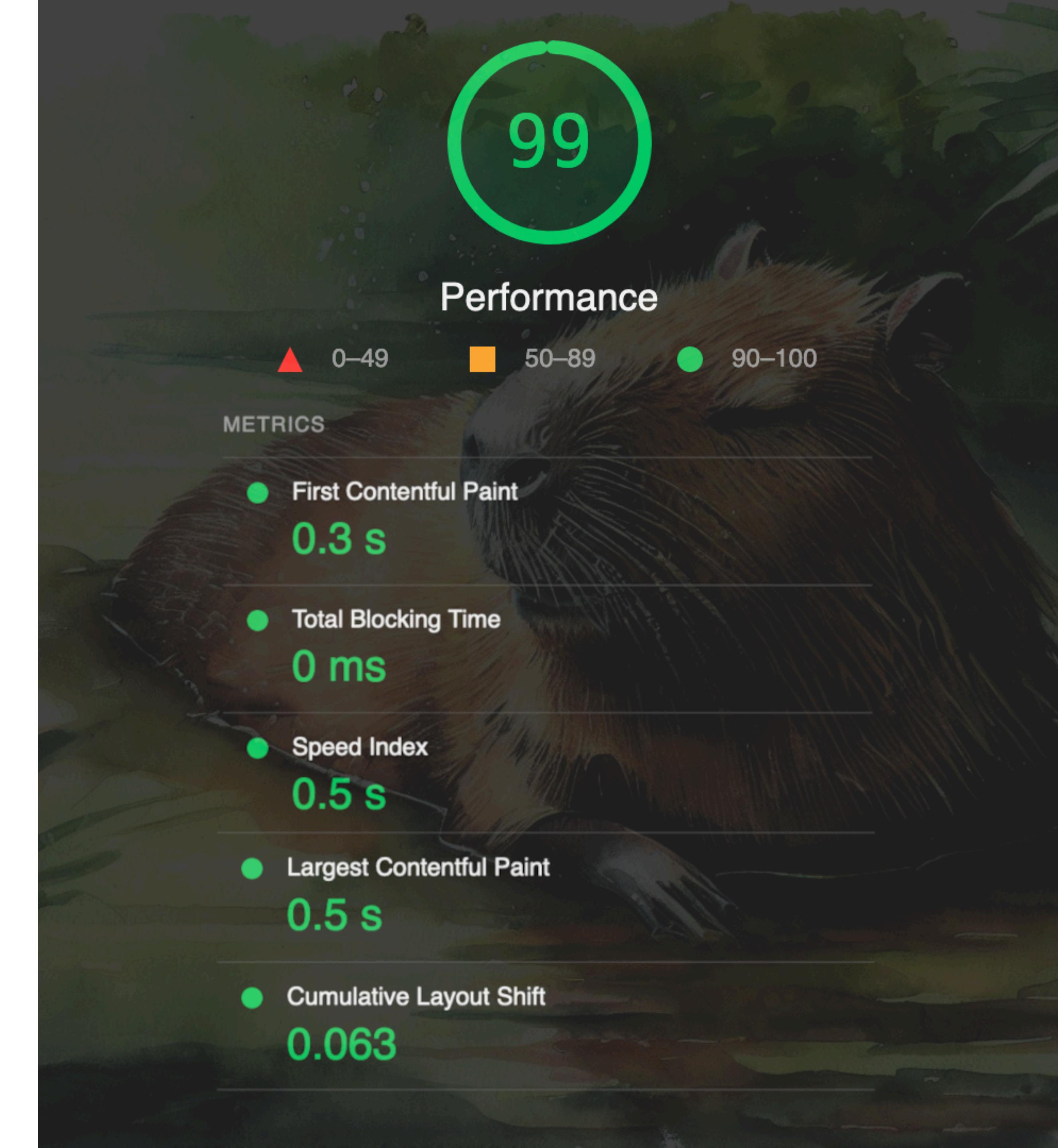
## planned test coverage

- **JUnit:** unit and integration tests for backend microservices
  - component coverage: **100%**
  - statement coverage: **70-80%**
- **cypress:** e2e tests for frontend workflows
  - coverage: **90-100%**

# quality assurance

## monitoring

- first contentful paint: < 1.8s
- speed index: < 3.4s
- commulative layout shift: < 0.1



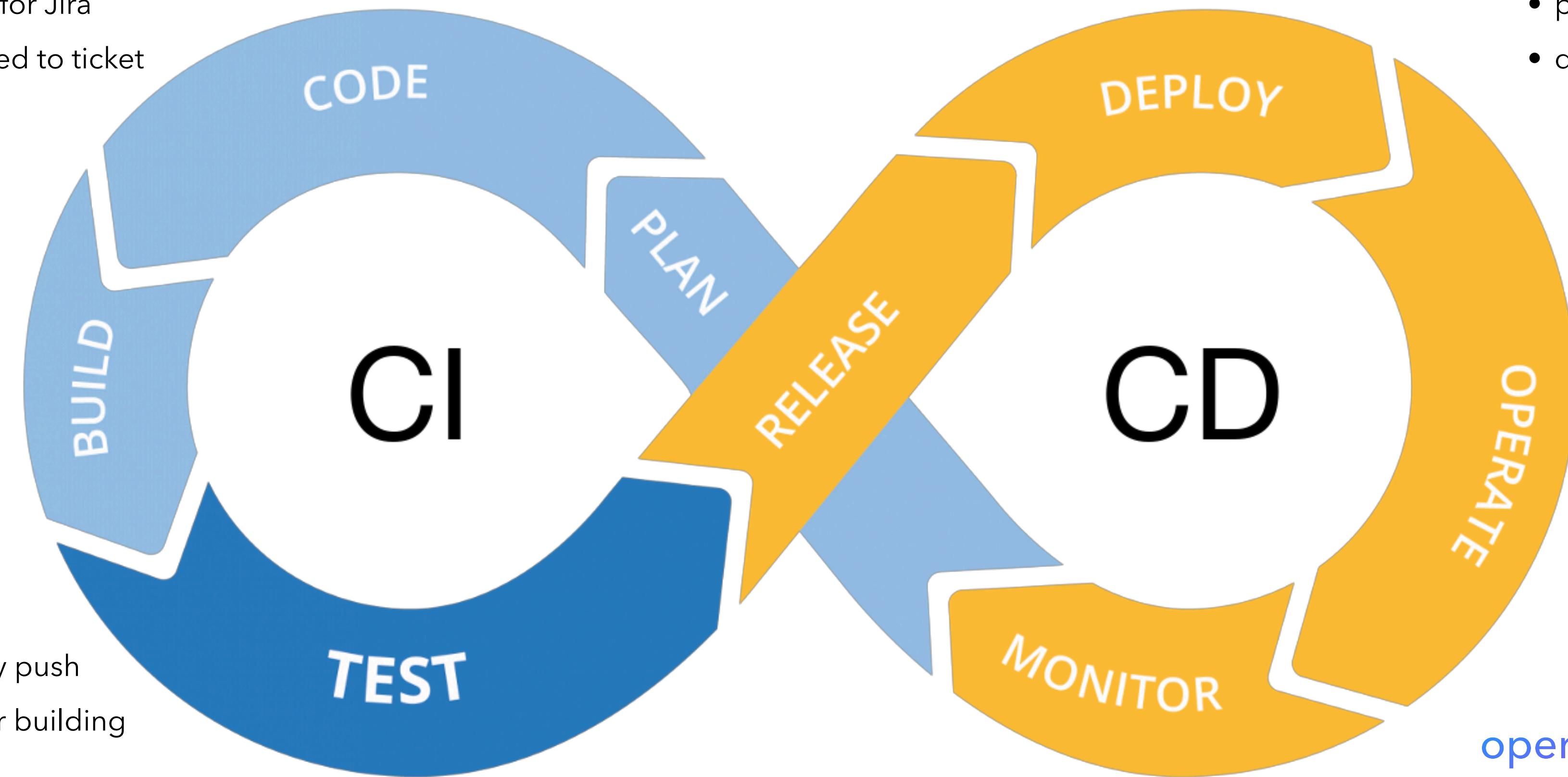
CI/CD

# CI/CD

## overview

### plan and code

- add tasks to Jira
- use GitHub integration for Jira
  - create branch related to ticket
- development process



### build and test

- pipeline triggers on any push
  - maven and npm for building
  - runs all tests
  - works on any branch
- instant feedback

### release and deploy

- merge into/push to main:
  - pipeline triggers tests again
  - deploys changes to server

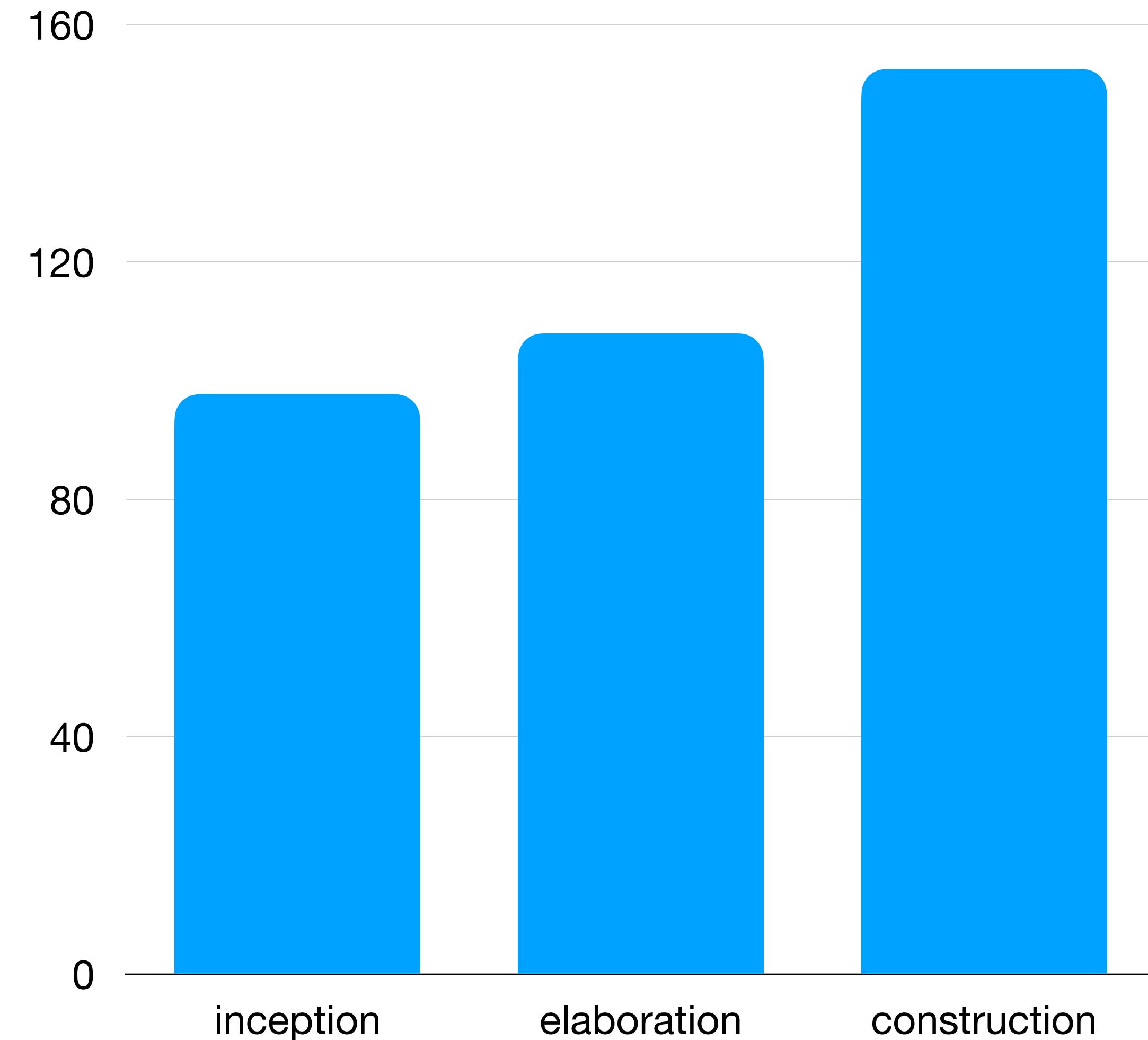
### operate and monitor

- monitor metrics via Lighthouse
  - focus on FCP, SI, CLS

statistics

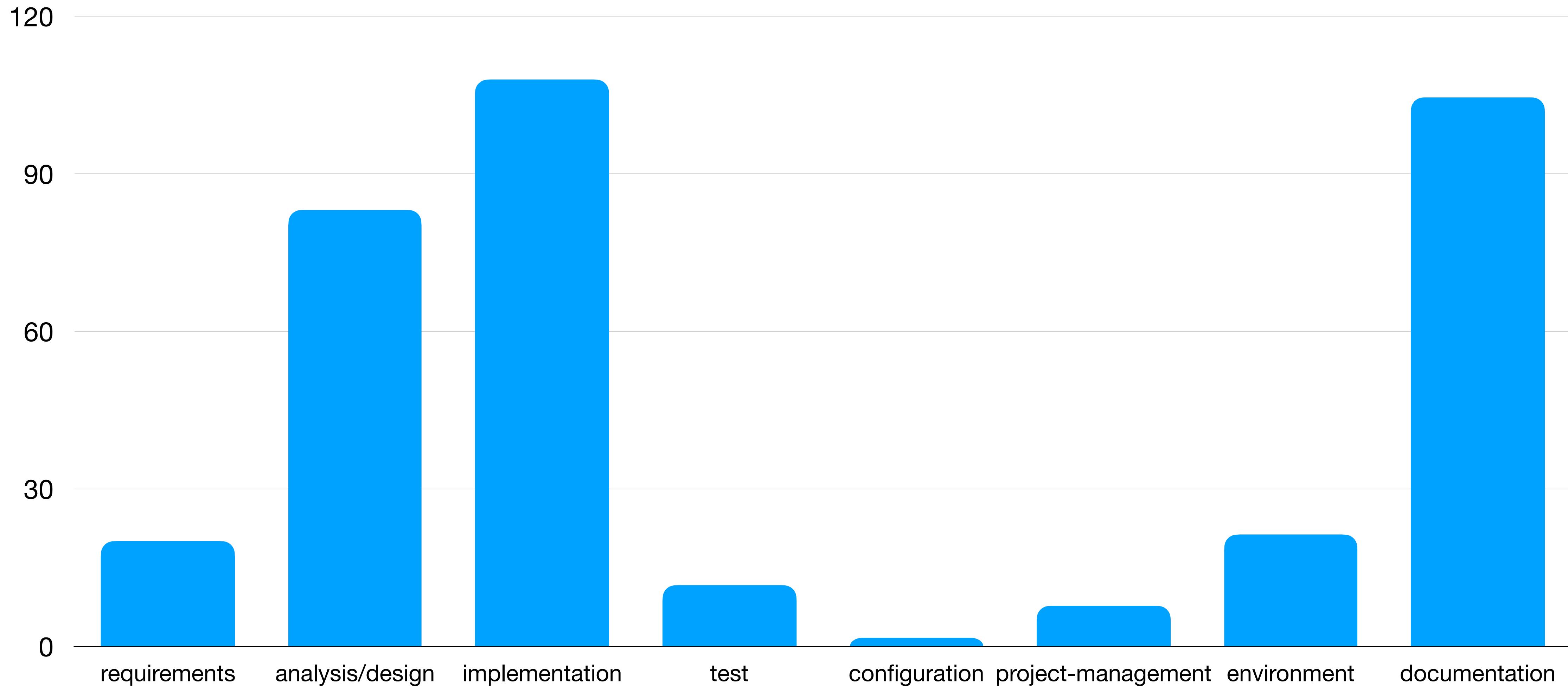
# statistics

## hours per phase



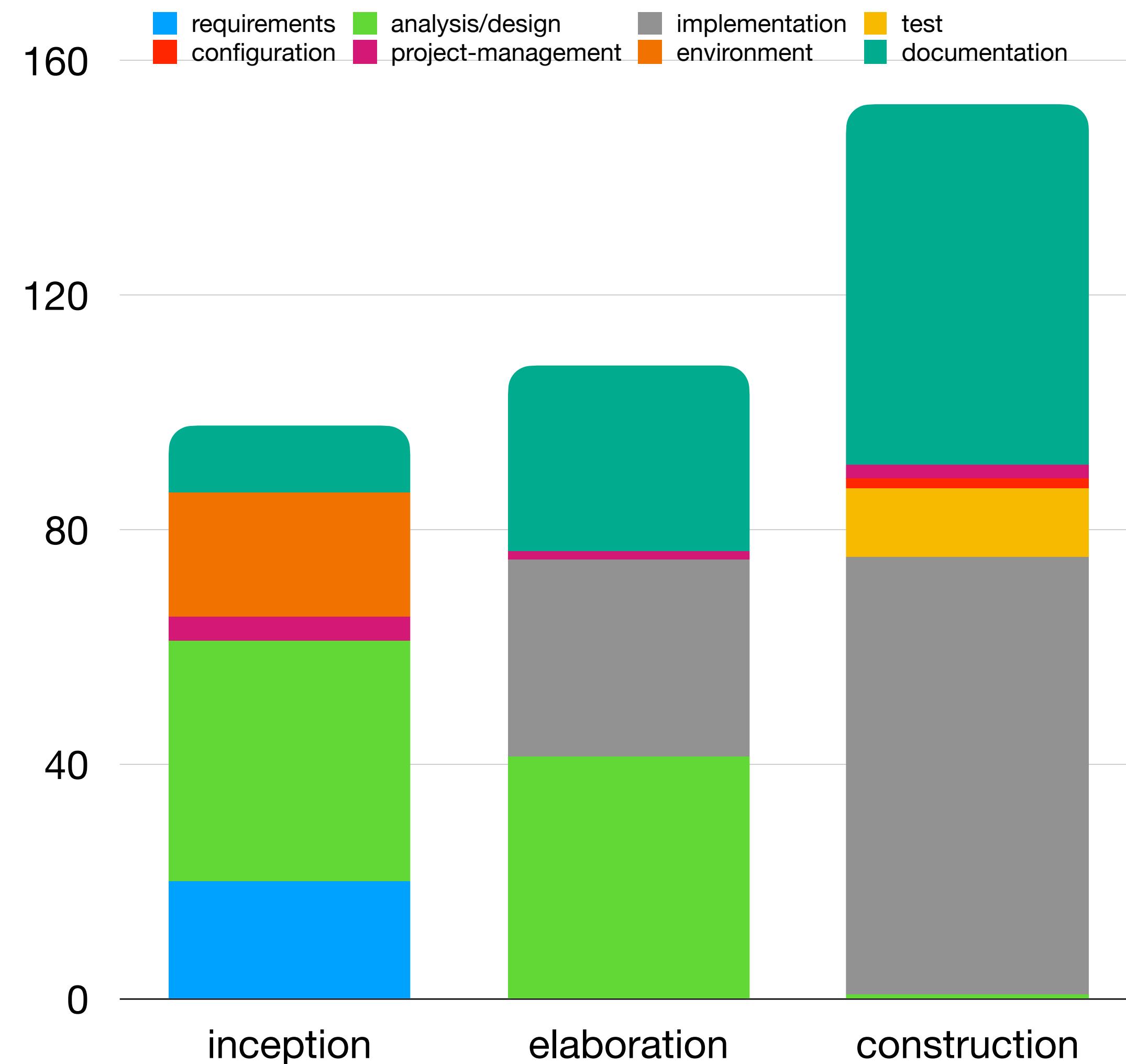
# statistics

## hours per workflow



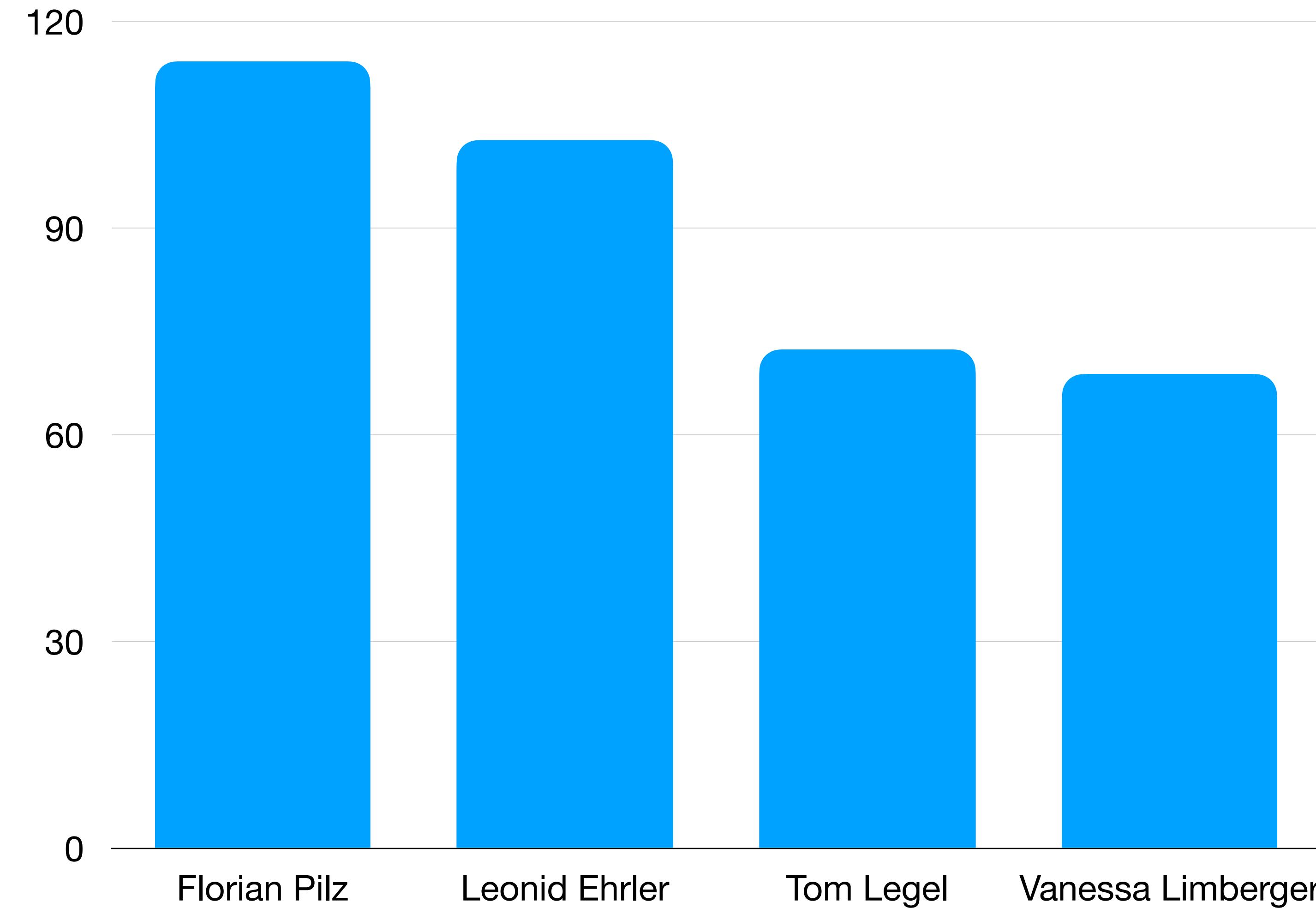
# statistics

## hours per phase and workflow



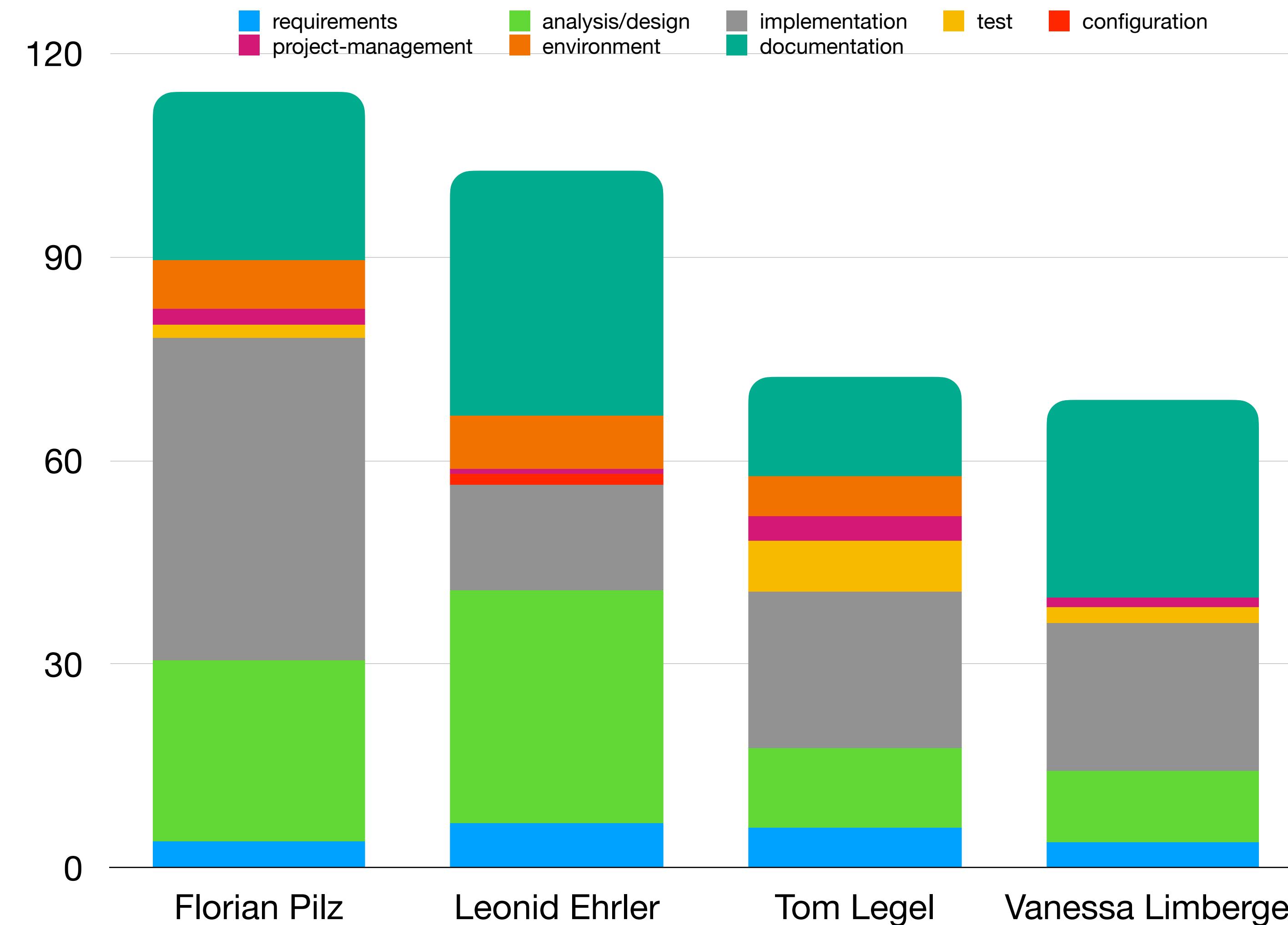
# statistics

## hours per person



# statistics

## hours per person and workflow



# statistics

## major contributions

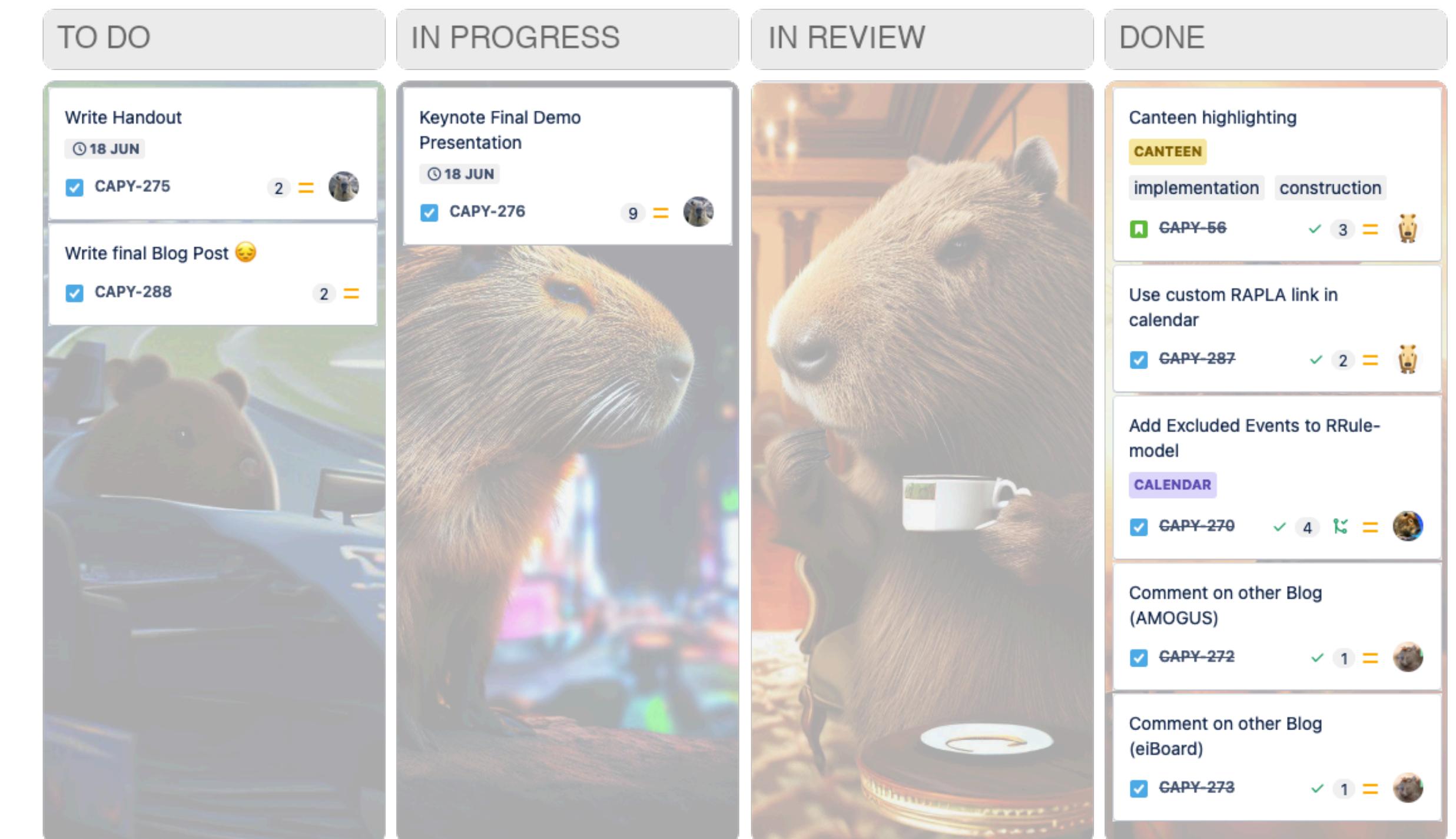
- **Leonid Ehrler:** graphic design, frontend development
- **Tom Legel:** calendar, testing
- **Vanessa Limberger:** user persistance, calendar
- **Florian Pilz:** CI/CD, architecture

project management

# project management

## scrum workflow

- weekly sprint planning meeting
  - retrospective
  - refinement
  - story point estimation
  - do and review tasks flexibly and independently



# project management

## project retro

	Keep this going	Start doing this	Stop doing this	I had fun with
@Leonid Ehrler	<ul style="list-style-type: none"><li>• organizing tasks</li><li>• work independently and flexibly on a ticket, review (together if necessary)</li></ul>	<ul style="list-style-type: none"><li>• add deadlines to tickets that last over several sprints (+1)</li></ul>		<ul style="list-style-type: none"><li>• React frontend/UI development</li></ul>
@Tom Legel	<ul style="list-style-type: none"><li>• proactively choose topics to build up expertise</li></ul>	<ul style="list-style-type: none"><li>• add description/summary of your solution to Pull Requests</li></ul>		<ul style="list-style-type: none"><li>• Spring Data</li><li>• My fellow capybaras</li></ul>
@Vanessa Limberger	<ul style="list-style-type: none"><li>• Add workflow and tags</li><li>• Fairly distributed tasks</li></ul>	<ul style="list-style-type: none"><li>• Gather all left motivation for the final sprint</li></ul>	<ul style="list-style-type: none"><li>• Keeping descriptions of tickets empty (even if you're the only contributor)</li></ul>	<ul style="list-style-type: none"><li>• Pair programming</li><li>• Fixing bugs</li><li>• Being responsible for a task</li></ul>
@Florian Pilz	<ul style="list-style-type: none"><li>• Task in review → Pull request ready</li><li>• Pair programming on new / unknown topics</li><li>• flexible way of working ("pulling tickets")</li></ul>	<ul style="list-style-type: none"><li>• prioritize some features for final demo (+1)</li></ul>	<ul style="list-style-type: none"><li>• Sometimes intransparent progress on big tickets</li><li>• Procrastination</li></ul>	<ul style="list-style-type: none"><li>• CI/CD</li><li>• Modern Architecture and technologies</li></ul>

# project management

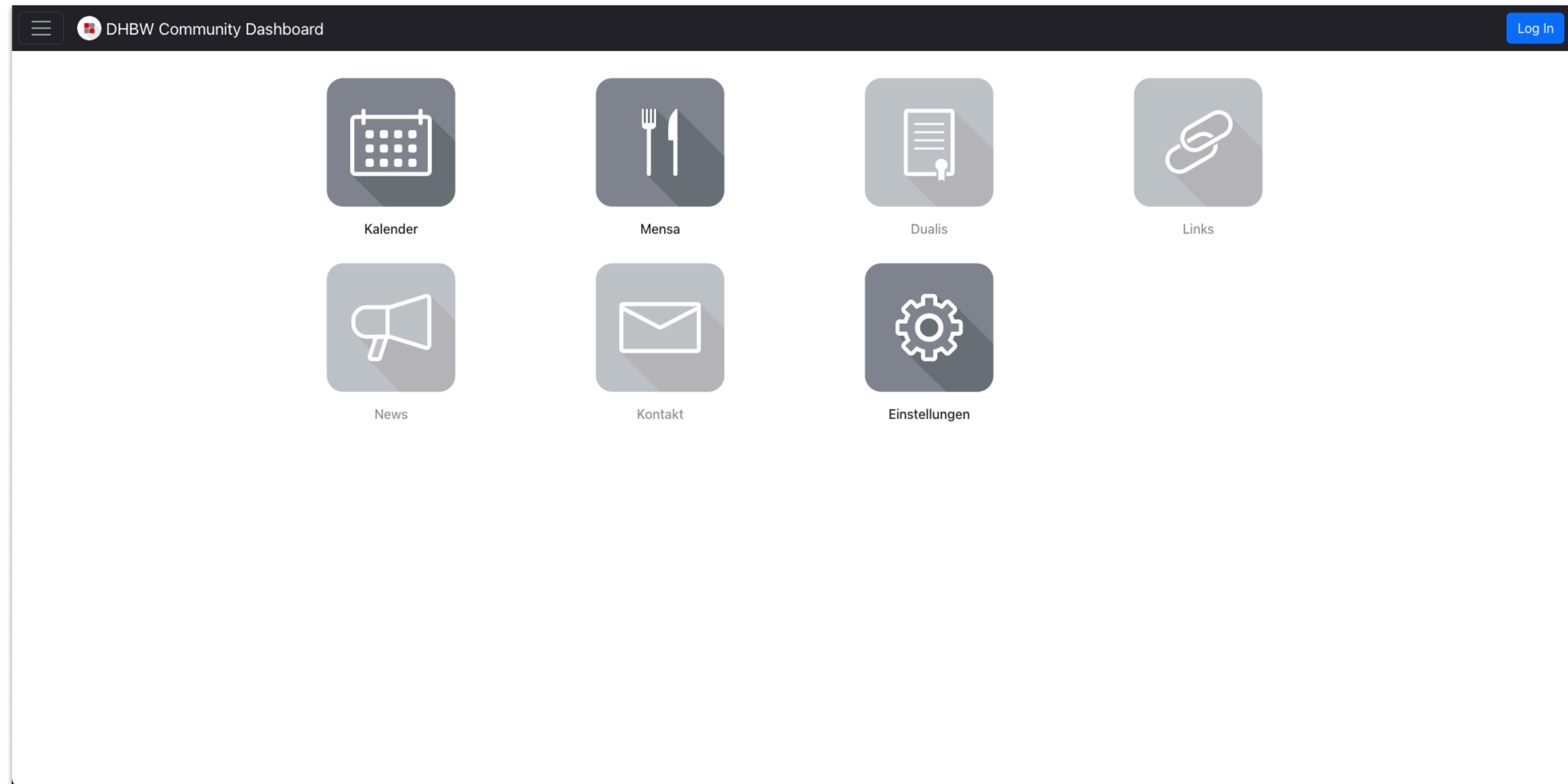
## risk management

ID	Category	Description	Probability	Impact	Score	Mitigation	Indicator	Contingency Plan	Responsible	Status	Last modified
001	Project	Lack of competence in react, spring boot or test framework (cypress)	5	3	15	Plan in more time to familiarize. Make sure there are good tutorials available	Hesitant to pick up tasks / Problems to get going	Knowledge exchange workshops, tutorials	@Florian Pilz	CLOSED	14. Juni 2023
002	Technical	Outage of deployment infrastructure	1	3	3	Have an alternative web hosting ready	-	Manually deploy on alternate server, implement new CD	@Florian Pilz	OPEN	17. Apr. 2023
003	Organization	Sickness	4	2	8	Create small, transparent tasks that any other team member can take over	Person calls in sick	Meet up and evaluate length of sickness / redistribute tasks	@Leonid Ehrler	OPEN	17. Apr. 2023
004	Organization	Exmatriculation	1	5	5	-	Failed second exam attempt	Reduce Scope	@Leonid Ehrler	CLOSED	14. Juni 2023
005	Project	Misjudgement of needed effort for Auth workflow	2	2	4	Prototyping, Discuss multiple approaches	Storypoint estimation doesn't fit actual effort	Use a different approach	@Vanessa Limberger	CLOSED	14. Juni 2023

demo screenshots

# demo screenshots

## dashboard



# demo screenshots

## calendar

The screenshot shows a weekly calendar view for the week of June 12–18, 2023. The days of the week are listed as columns: Mo. 12.6., Di. 13.6., Mi. 14.6., Do. 15.6., Fr. 16.6., Sa. 17.6., and So. 18.6. The hours of the day are listed as rows: all-day, 08 Uhr, 09 Uhr, 10 Uhr, 11 Uhr, 12 Uhr, 13 Uhr, 14 Uhr, 15 Uhr, and 16 Uhr. Events are represented by colored boxes. A legend indicates that blue boxes represent "all-day" events, while other colors (yellow, red) likely represent different types of events or categories. The calendar includes navigation buttons for "Heute", "Monat", and "Liste".

	Mo. 12.6.	Di. 13.6.	Mi. 14.6.	Do. 15.6.	Fr. 16.6.	Sa. 17.6.	So. 18.6.
all-day							
08 Uhr							
09 Uhr	09:00 - 11:00 Klausur Datenbanken Datenbanken ( min)	09:00 - 12:15 Statistik	09:00 - 12:15 Compilerbau	09:00 - 12:15 Compilerbau	08:30 - 11:45 OO Best Pra	09:00 - 12:15 Workflow	
10 Uhr							
11 Uhr							
12 Uhr							
13 Uhr	13:00 - 17:00 Grundlagen des Software Engineering		13:00 - 16:15 Kommunikations- und Netztechnik I		13:00 - 16:15 Kommunikations- und Netztechnik I		
14 Uhr							
15 Uhr							
16 Uhr							

# demo screenshots

## canteen

The screenshot shows the DHBW Community Dashboard canteen menu for June 14, 2023. The top navigation bar includes a logo, the text "DHBW Community Dashboard", and a "Log In" button. The main title "Mensa" is centered above the menu grid. Below the title, a dropdown menu shows "Mensa Erzbergerstraße". The menu is organized into three rows of items. Each item card includes the name of the dish, its preparation, price, and dietary information (e.g., vegan, vegetarian). A "Zusatzinformationen" (additional information) button is also present in each card.

Montag, 12.6.2023	Dienstag, 13.6.2023	Mittwoch, 14.6.2023	Donnerstag, 15.6.2023	Freitag, 16.6.2023
Pasta Alfredo mit Tomaten, Hinterschinken und Reibekäse Schwein 3,20 € Zusatzinformationen	Zu diesem Gericht reichen wir frisches Obst oder Salat vegan 0,00 € Zusatzinformationen	Pasta all'Arrabbiatta mit Reibekäse vegetarisch 3,20 € Zusatzinformationen		
Zu diesem Gericht reichen wir frisches Obst oder Salat vegan 0,00 € Zusatzinformationen	3 Semmelknödel mit frischen Champignonragout vegetarisch 3,95 € Zusatzinformationen	Tagesdessert Keine Angabe 1,05 € Zusatzinformationen		
Salatbuffet mit frischer Rohkost, Blattsalate und ausgemachten Dressings, Preis vegan 1,00 € Zusatzinformationen	Grüner Mischsalat Keine Angabe 0,90 € Zusatzinformationen	Gemüse Keine Angabe 0,90 € Zusatzinformationen		

# demo screenshots

## sidebar

The screenshot shows a sidebar navigation menu on the left side of a web page. The sidebar has a dark header with the word "Navigation" and a close button "X". It contains seven items arranged in two columns:

- Kalender**: Represented by a calendar icon.
- Mensa**: Represented by a fork and knife icon.
- Dualis**: Represented by a document icon.
- Links**: Represented by a link icon.
- News**: Represented by a megaphone icon.
- Kontakt**: Represented by an envelope icon.
- A large gear icon at the bottom.

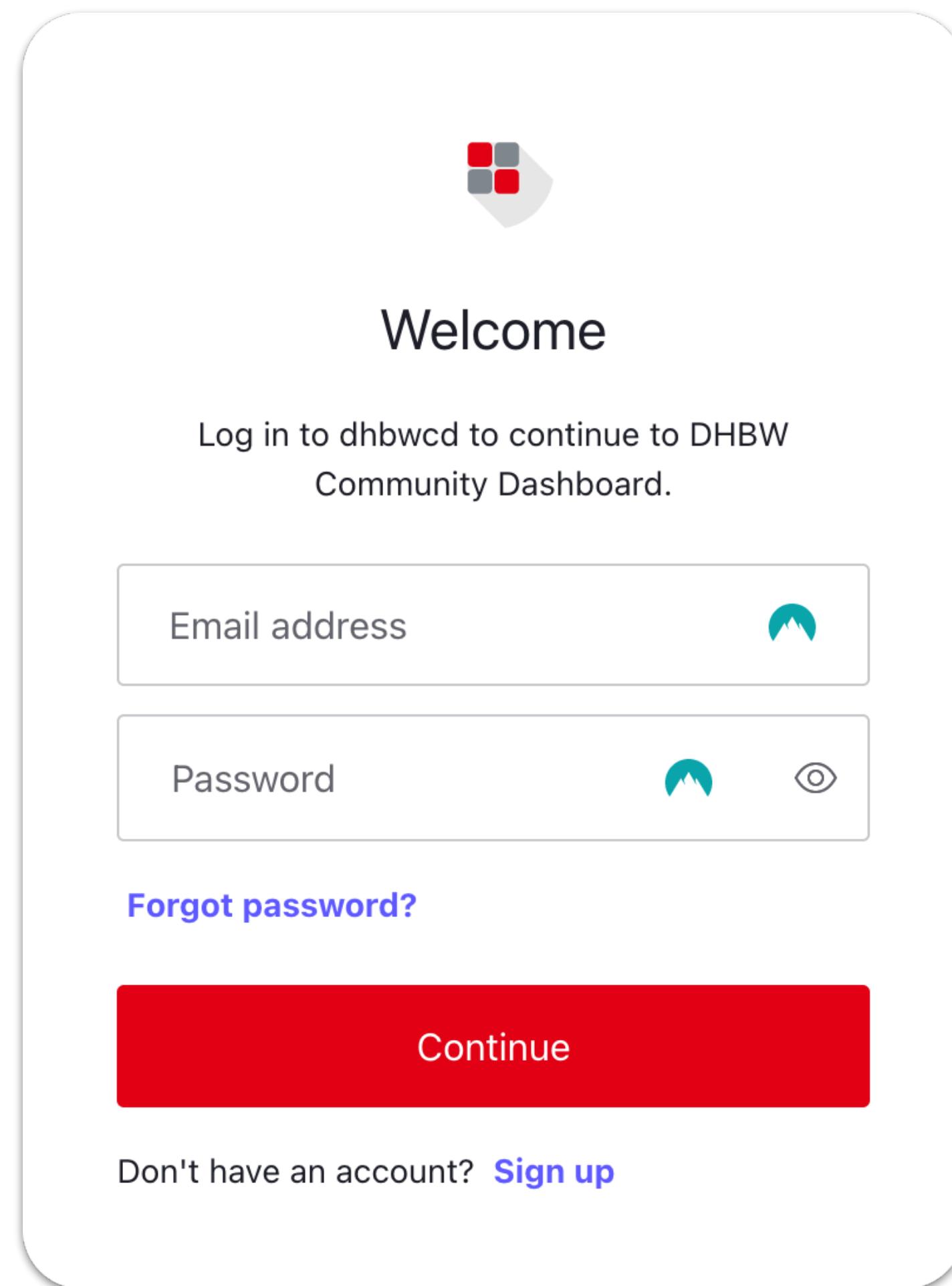
The main content area to the right is titled "Mensa" and shows a grid of meal options for the week. The days of the week are listed at the top: Dienstag, 12.6.2023; Mittwoch, 13.6.2023; Donnerstag, 14.6.2023; Freitag, 15.6.2023; and Freitag, 16.6.2023. The "Donnerstag, 15.6.2023" tab is selected. The meals listed are:

- Alfredo mit Tomaten, Schinken und Reibekäse (vegan, 3,20 €)
- Zu diesem Gericht reichen wir frisches Obst oder Salat (vegan, 0,00 €)
- Pasta all'Arrabbiatta mit Reibekäse (vegetarisch, 3,20 €)
- 3 Semmelknödel mit frischen Champignonragout (vegetarisch, 3,95 €)
- Tagesdessert (Keine Angabe, 1,05 €)
- Grüner Mischsalat (Keine Angabe, 0,90 €)
- Gemüse (Keine Angabe, 0,90 €)

Each meal item includes a "Zusatzinformationen" (Additional information) dropdown arrow.

# demo screenshots

## log in



# demo screenshots

## user settings

The screenshot displays the DHBW Community Dashboard interface. At the top, there is a dark header bar with the DHBW logo, the text "DHBW Community Dashboard", the user identifier "ehrler.leonid.a21", and a "Log Out" button. Below the header, the main content area has a white background.

The left side of the screen features a sidebar with the title "Einstellungen". A blue horizontal bar highlights the "Account" tab, while other tabs like "Kalender", "Mensa", and "Über" are shown in light blue. The "Account" tab leads to the current view, which is titled "Account Einstellungen".

In the center, there is a card for the user "User". It contains a green circular profile picture with the letters "EH" in white. Below the picture, the display name "Leonid Ehrler" is shown next to the input field "Anzeigenname". The email address "ehrler.leonid.a21@student.dhbw-karlsruhe.de" is listed at the bottom of the card. A blue "Speichern" button is located at the bottom right of the card.

# demo screenshots

## calendar settings

The screenshot shows the 'Einstellungen' (Settings) section of the DHBW Community Dashboard. The left sidebar has links for 'Account', 'Kalender' (which is selected and highlighted in blue), 'Mensa', and 'Über'. The main content area is titled 'Kalender-Einstellungen' (Calendar Settings). It includes a 'Darstellung' (Representation) section with 'Format:' dropdown showing '24 Stunden' (selected) and '12 Stunden'. A 'Standard Ansicht:' dropdown is set to 'Tag'. Below this is a 'RAPLA Kalender' section with a 'RAPLA Link:' input field containing 'https://rapla.dhbw-karlsruhe.de/...' and a 'Speichern' (Save) button.

Einstellungen

DHBW Community Dashboard

ehrler.leonid.a21 Log Out

Kalender-Einstellungen

Account

Kalender

Mensa

Über

Darstellung

Format:

24 Stunden

12 Stunden

Standard Ansicht:

Tag

RAPLA Kalender

RAPLA Link:

https://rapla.dhbw-karlsruhe.de/...

Speichern

# demo screenshots

## canteen settings

The screenshot shows the DHBW Community Dashboard interface. At the top, there is a navigation bar with a menu icon, the logo 'DHBW Community Dashboard', the user name 'ehrler.leonid.a21', and a 'Log Out' button.

The main content area is titled 'Einstellungen' (Settings) and contains several sections:

- Mensa-Einstellungen** (Canteen Settings):
  - Darstellung** (Representation):
    - Meine Mensa: dropdown menu set to 'Mensa Erzbergerstraße'
    - Highlighting aktivieren: checked checkbox
    - Highlighting-Farbe: color swatch set to green
    - Highlighting-Typen: dropdown menu set to 'vegan'
  - Ausblenden** (Hide):
    - Gerichte anzeigen mit Mindesteigenschaft: dropdown menu set to 'vegetarisch'

A blue button labeled 'Speichern' (Save) is located at the bottom right of the 'Ausblenden' section.

On the left side of the main content area, there is a vertical sidebar with the following menu items:
  - Account
  - Kalender
  - Mensa** (highlighted in blue)
  - Über

# demo screenshots

## canteen (filtered)

The screenshot shows the DHBW Community Dashboard canteen menu for the week of June 12-16, 2023. The menu items are displayed in a grid format, with the first two rows highlighted in green boxes.

**Mensa** (Mensa Erzbergerstraße)

Days of the week: Montag, 12.6.2023; Dienstag, 13.6.2023; Mittwoch, 14.6.2023; Donnerstag, 15.6.2023; Freitag, 16.6.2023

Montag, 12.6.2023	Dienstag, 13.6.2023	Mittwoch, 14.6.2023	Donnerstag, 15.6.2023	Freitag, 16.6.2023
Zu diesem Gericht reichen wir frisches Obst oder Salat vegan 0,00 € Zusatzinformationen ▾	Pasta all'Arrabiatta mit Reibekäse vegetarisch 3,20 € Zusatzinformationen ▾	Zu diesem Gericht reichen wir frisches Obst oder Salat vegan 0,00 € Zusatzinformationen ▾		
3 Semmelknödel mit frischen Champignonragout vegetarisch 3,95 € Zusatzinformationen ▾		Salatbuffet mit frischer Rohkost, Blattsalate und ausgemachten Dressings, Preis vegan 1,00 € Zusatzinformationen ▾		

*cheers, capyclue.*