Component based development

Controlling complexity in a growing app

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Monteursapp

Supporting Service Technicians

Project characteristics

- 500 users
- Used 24/7
- 10 team members (8 developers)
- 3 years of development

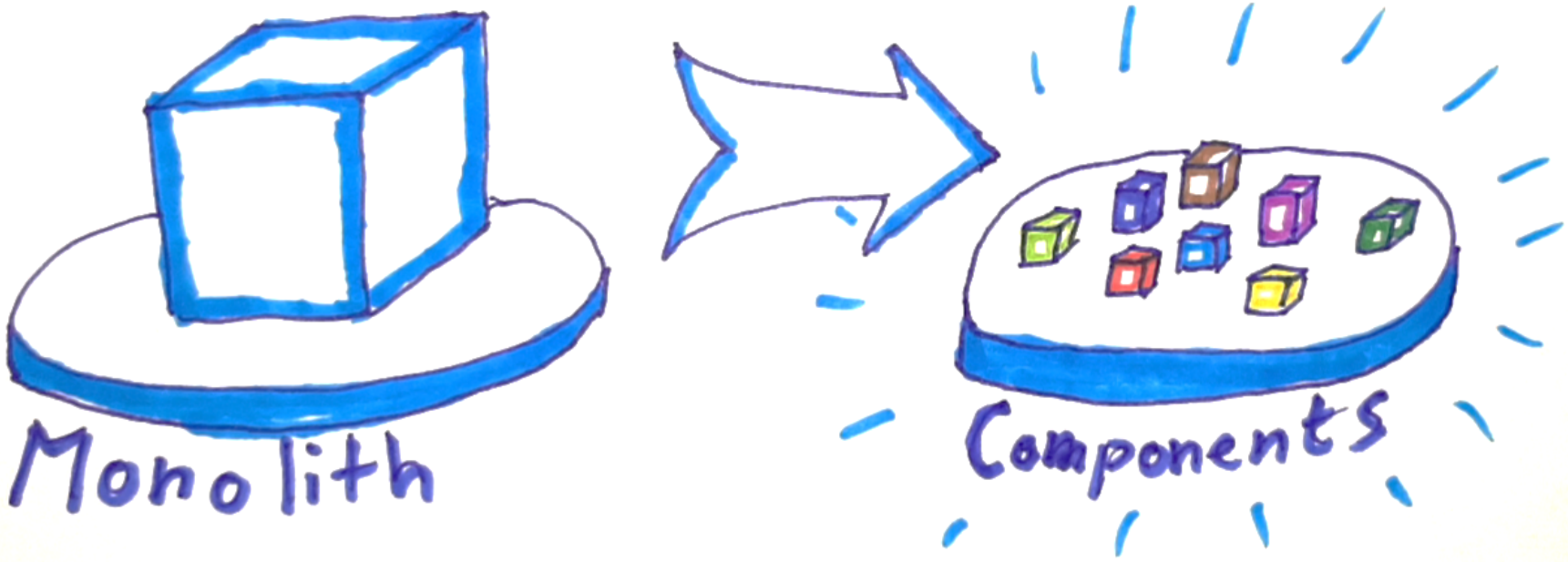
Tech stack

- Android app based on UI5
- Cloud Foundry on SAP Cloud Platform
- Node.js

Split the app in components

Components…

- can be run and tested separately and therefore are easier to develop.
- are easier to reuse in other applications.
- make it easier to work together with a large team



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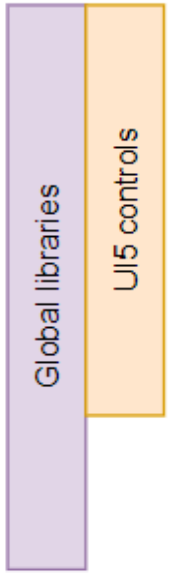
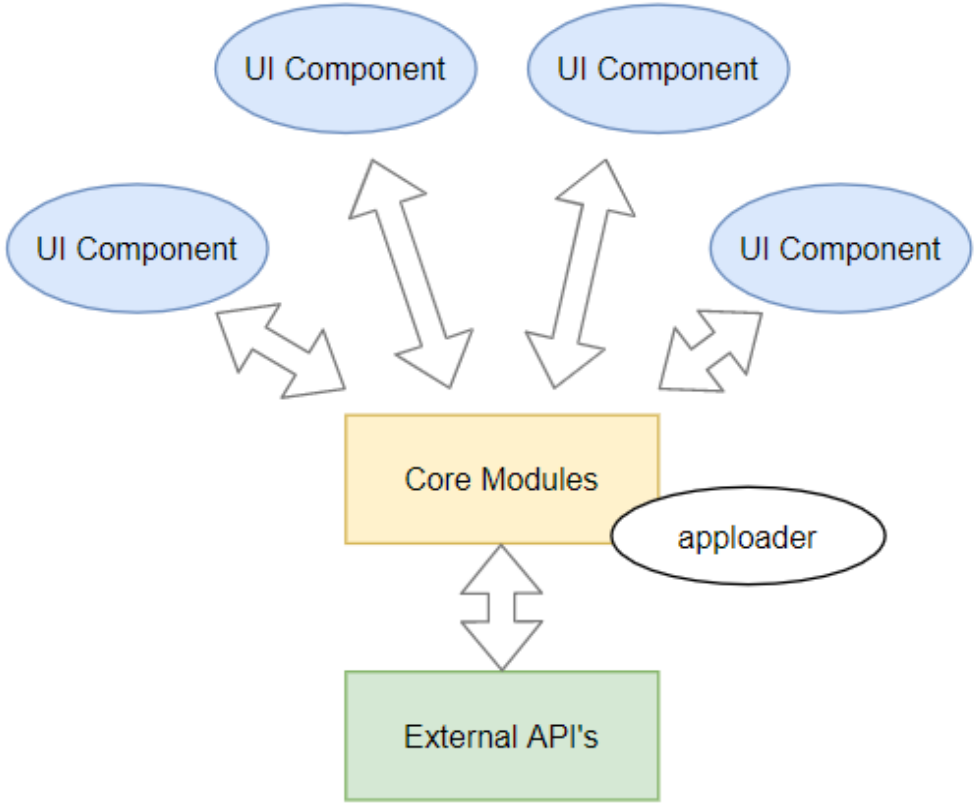
Rules for components

A component…

- covers a well-defined part of the application
- can be run by itself
- doesn't know anything about the other components (!)
- has limited dependencies:
  - a limited set of 'core' modules
  - some ui5 libraries, custom controls and utilities





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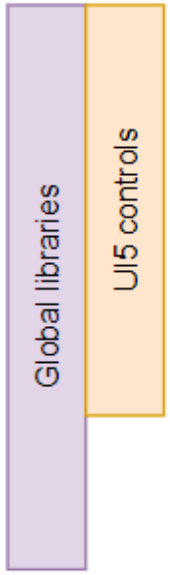
Core-modules

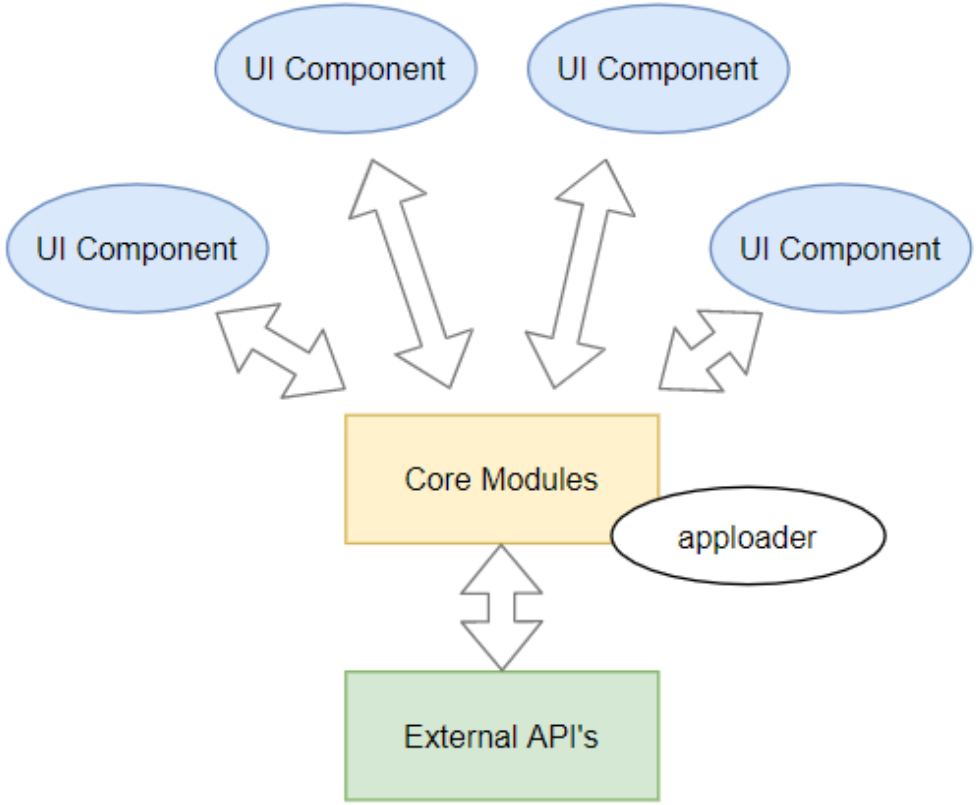
Core-modules…

- deliver generic functions to the components
- offer an abstraction on external API's

Examples

- Logging module
- Backend API abstraction
- Eventbus





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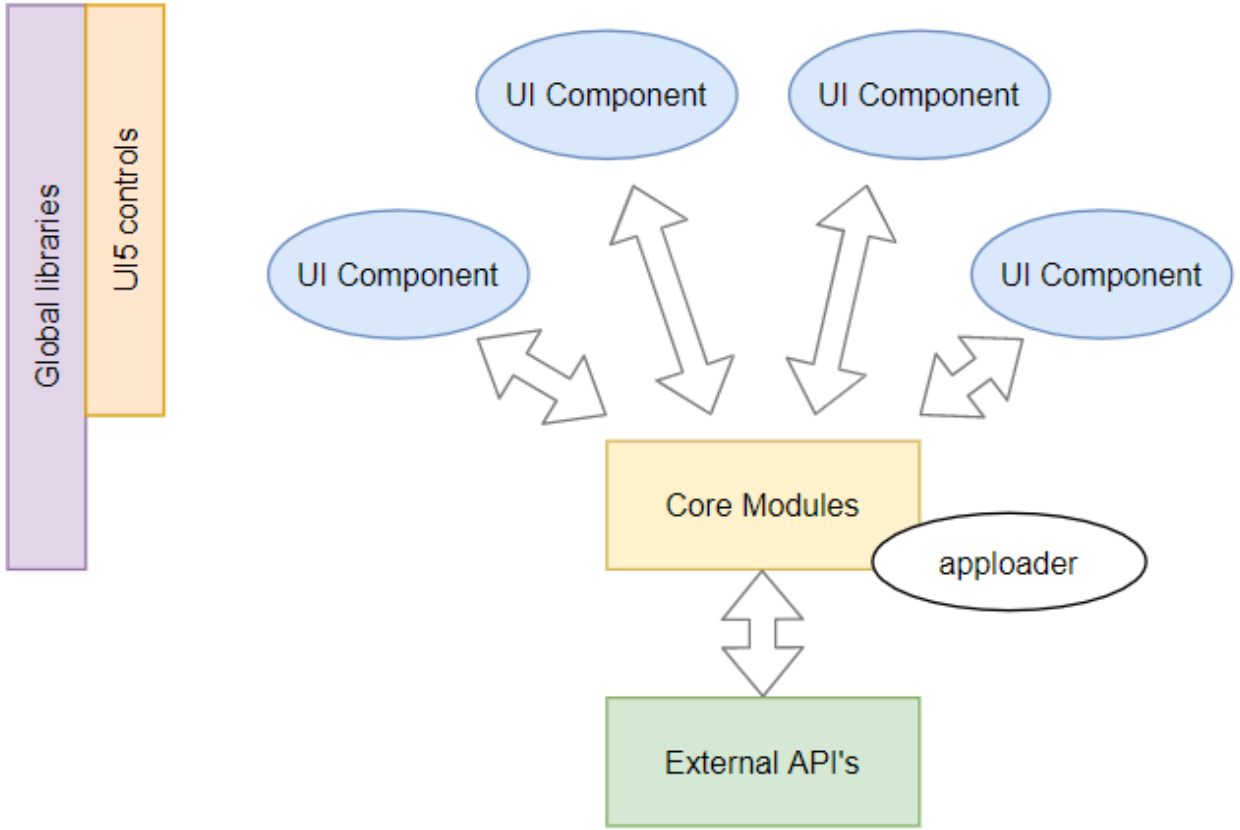
Shell component

The shell component…

- is the starting point for the user
- places components in the screen

It doesn't…

- contain startup logic



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Apploader

The apploader…

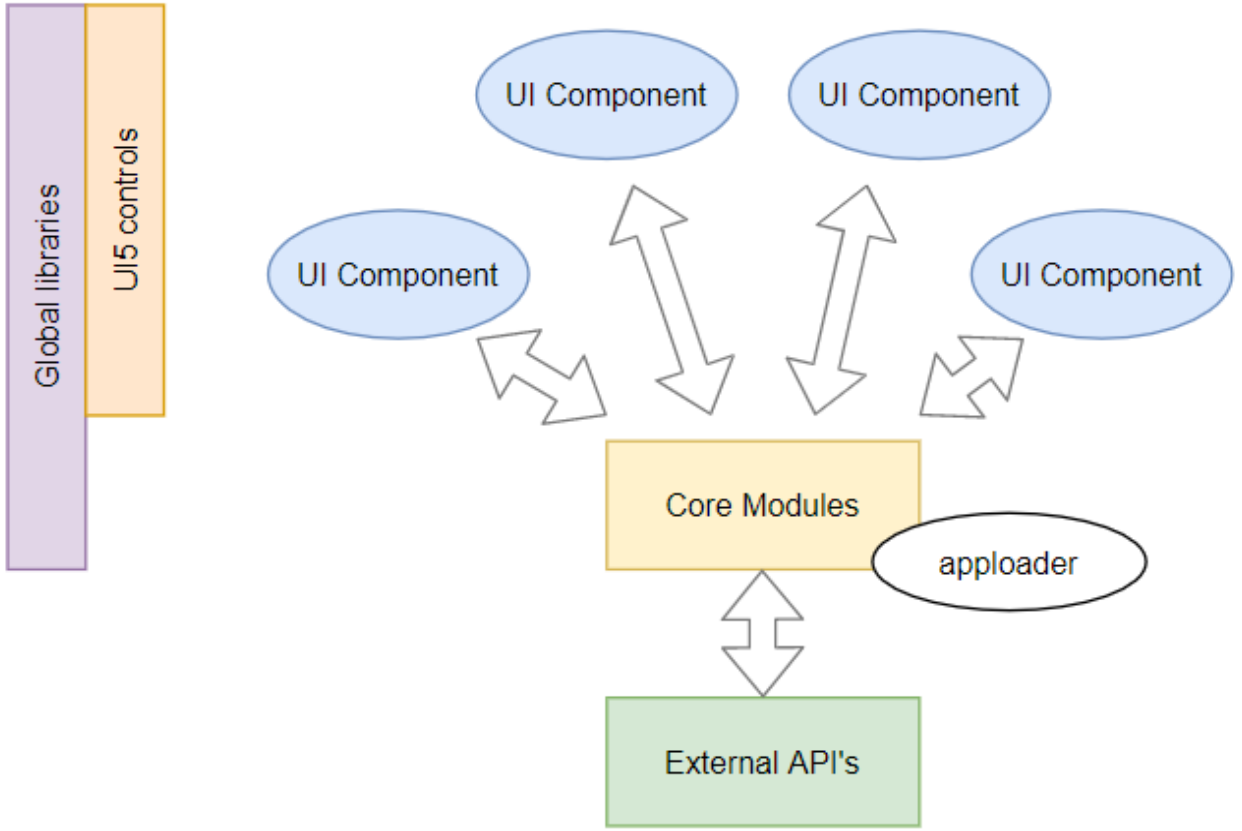
- contains the startup logic for the app
- can start any component
- a started component runs independently

It doesn't…

- contain UI

Example logic

- Show (and hide) a splashscreen
- User authentication and authorization



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Advantages

Testing

- Components can be tested separately end-to-end (e.g. uiveri5, opa5)
- Core-modules can be unit-tested separately (e.g. qunit)

Collaboration with others

- Separation of concern
- Splitting responsibility

Reusability

- Abstraction on UIComponent

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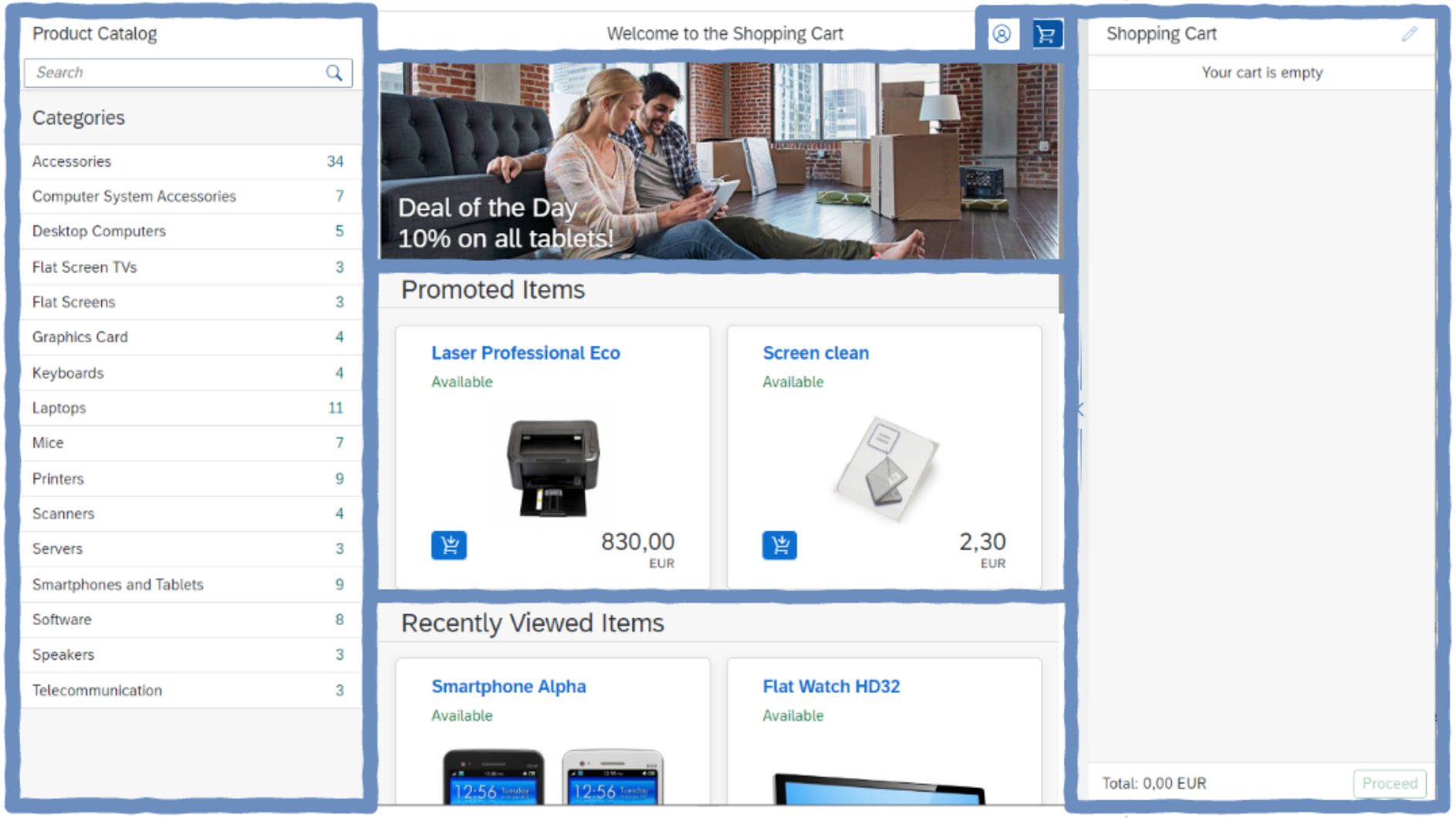
Migrating to components

Split the UI



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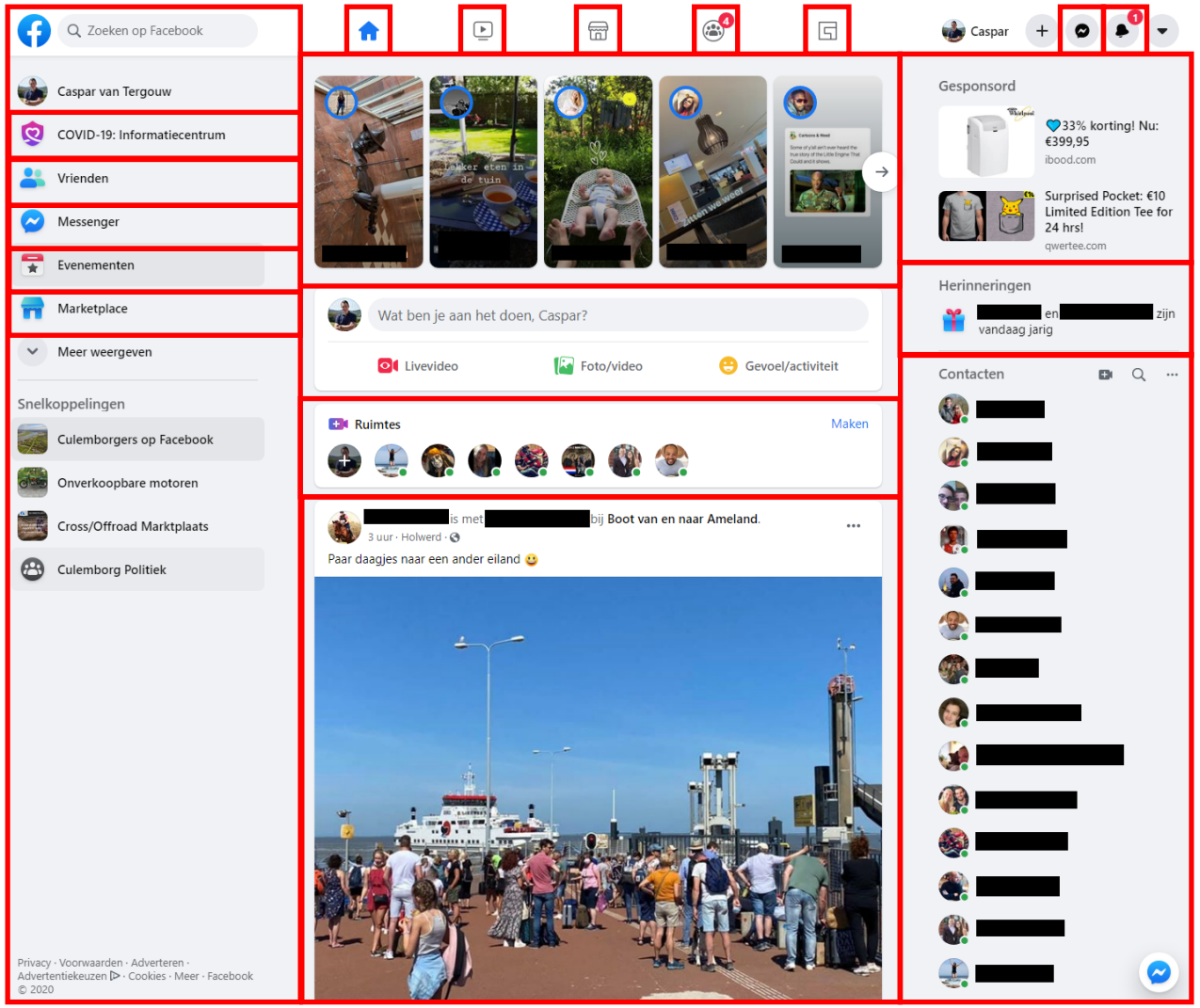
Examples (1 of 2)



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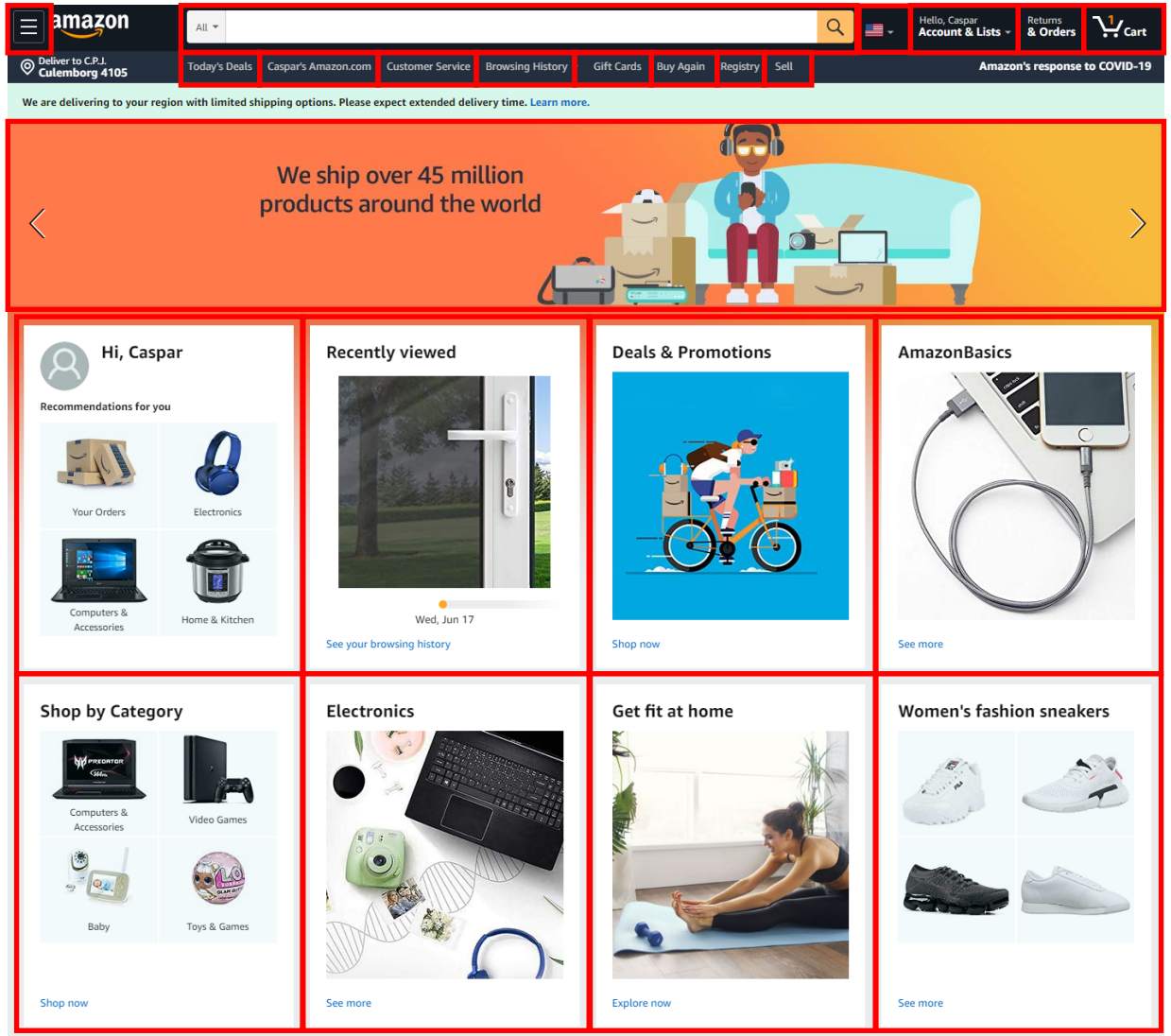
Examples (2 of 2)



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Thank you.

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https://blogs.sap.com/2020/06/21/component-based-development-in-ui5/