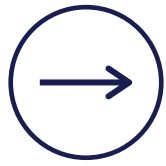


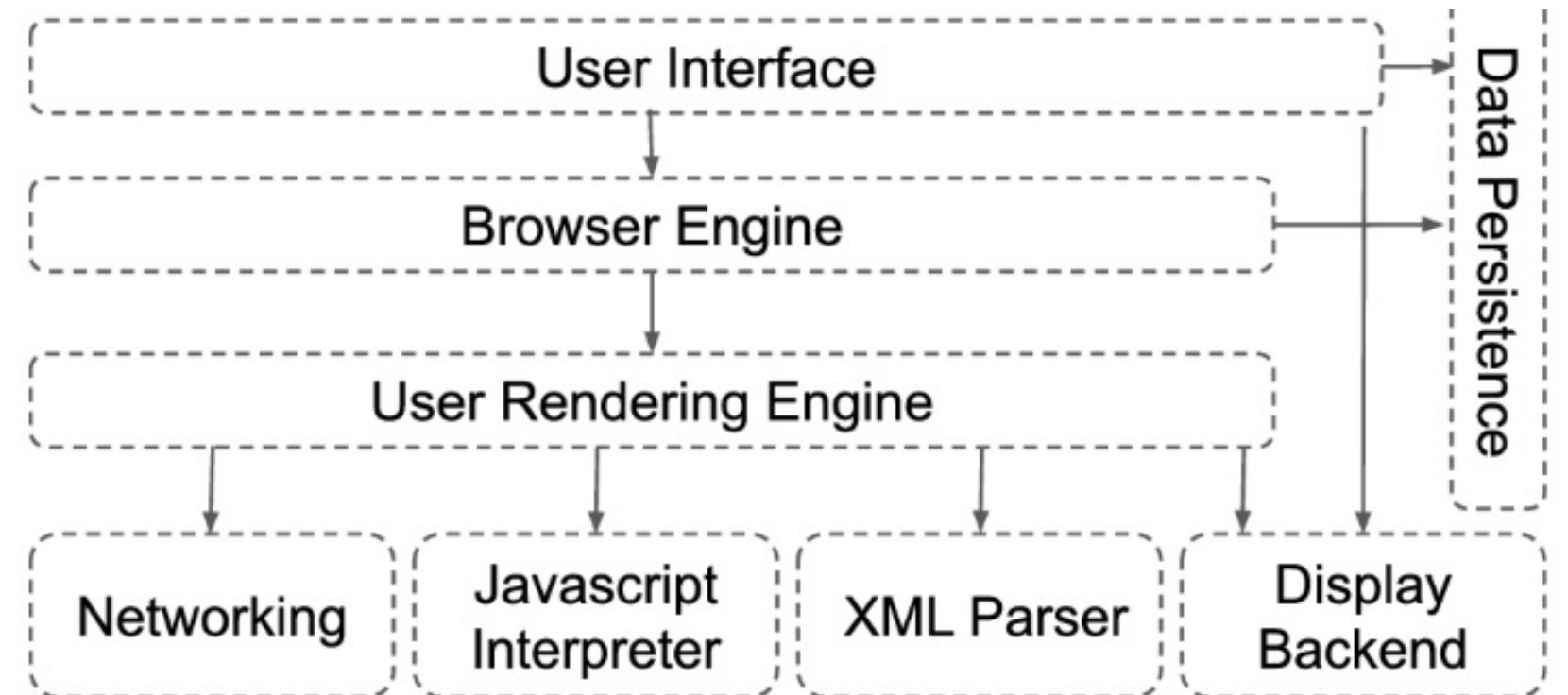
Continuous conformance

Pre-study



Reference architecture

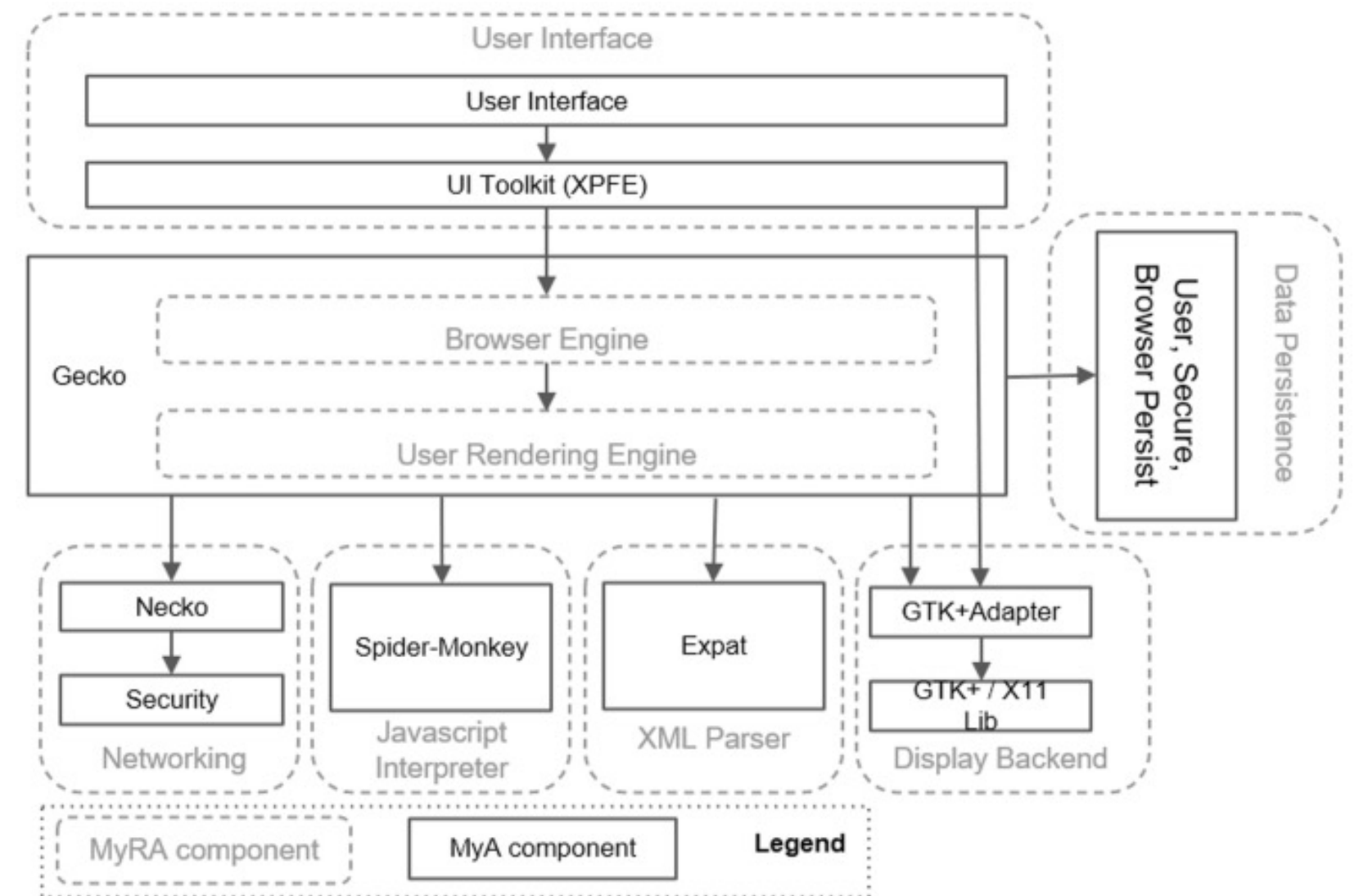
General architecture that is used as a foundation for the design of software architectures within a given context or application domain.

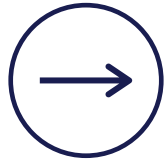




Architecture conformance

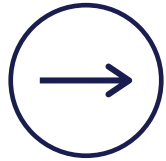
Architects have no instruments for ensuring conformance of software architectures to corresponding reference architectures, and they risk making wrong assumptions about the system and its context of use, poor design decisions, and sub-optimal design solutions.





Assistive modelling tool

to aid architects in the creation of software architectures by automatically identifying and rectifying misalignment with a designated reference architecture.

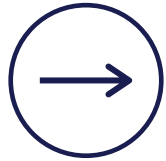


Requirements

We identified the following requirements.

- Can you prioritize them?

ID	Title	Description	Prioritization
1	Conformance checking	Providing conformance checking	
2	Continuous architecting	Agile-like	
3	Automation	Automatically check consistency and propose restoration strategies	
4	Real-time	Conformance and related information are dysplayed in real-time	
5	Non blocking	The conformance check is non blocking and does not stop the design	
6	Knowledge base	Offers datasets on architectures, styles, etc.	
7	Collaborative	Different stakeholders	
8	Web-based	Doesn't require installation, dependencies resolutions, etc.	
9	Modifiable	Wrt new architectures, styles, etc.	
10	Graphical	Information abour conformance is displayed graphically	

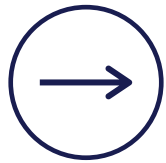


Requirements

We identified the following requirements.

- Would you remove any requirement?

ID	Title	Description	Prioritization
1	Conformance checking	Providing conformance checking	
2	Continuous architecting	Agile-like	
3	Automation	Automatically check consistency and propose restoration strategies	
4	Real-time	Conformance and related information are dysplayed in real-time	
5	Non blocking	The conformance check is non blocking and does not stop the design	
6	Knowledge base	Offers datasets on architectures, styles, etc.	
7	Collaborative	Different stakeholders	
8	Web-based	Doesn't require installation, dependencies resolutions, etc.	
9	Modifiable	Wrt new architectures, styles, etc.	
10	Graphical	Information abour conformance is displayed graphically	

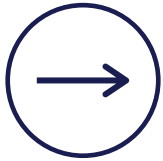


Requirements

We identified the following requirements.

- Would you add any requirement?

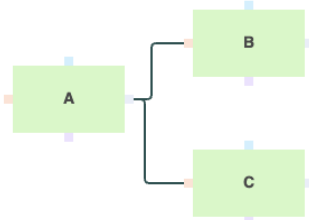
ID	Title	Description	Prioritization
1	Conformance checking	Providing conformance checking	
2	Continuous architecting	Agile-like	
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Assistive modelling tool

Selected Reference Architecture

GoJS 2.3 evaluation
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Compose your Architecture

```
ArchitectureModel: {  
  Component: {name: a, implements: A},  
  Component: {name: b1, implements: B},  
  Component: {name: b2, implements: B},  
  Component: {name: c, implements: C},  
  Component: {name: d},  
  Connector: {src: a, trg: b1},  
  Connector: {src: a, trg: c},  
  Connector: {src: b1, trg: c},  
  Connector: {src: b1, trg: d}  
}
```

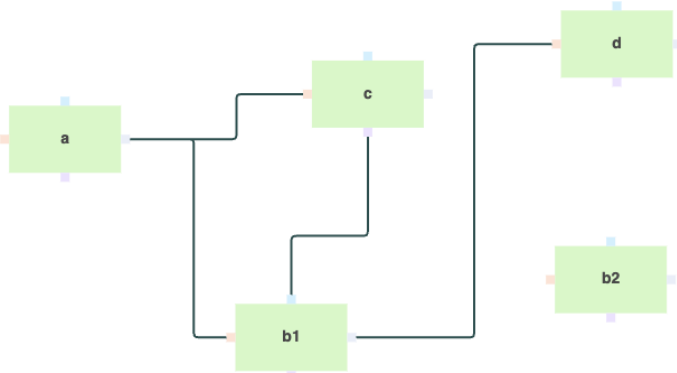
Console

Violation in connectors definition for component: b2
Violation in connectors definition for component: b1
Violation in connectors definition for component: c
No mapping defined with RA for component: d
Violation in connectors definition for component: a

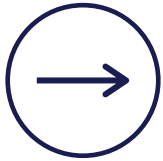
Code gen: 30 ms

Component Diagram

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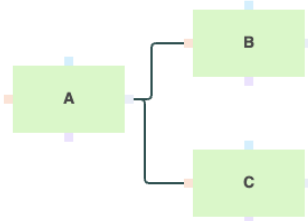
7



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Selected Reference Architecture

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Compose your Architecture

```
ArchitectureModel: {  
  Component: {name: a, implements: A},  
  Component: {name: b1, implements: B},  
  Component: {name: b2, implements: B},  
  Component: {name: c, implements: C},  
  Component: {name: d},  
  Connector: {src: a, trg: b1},  
  Connector: {src: a, trg: c},  
  Connector: {src: b1, trg: c},  
  Connector: {src: b1, trg: d}  
}
```

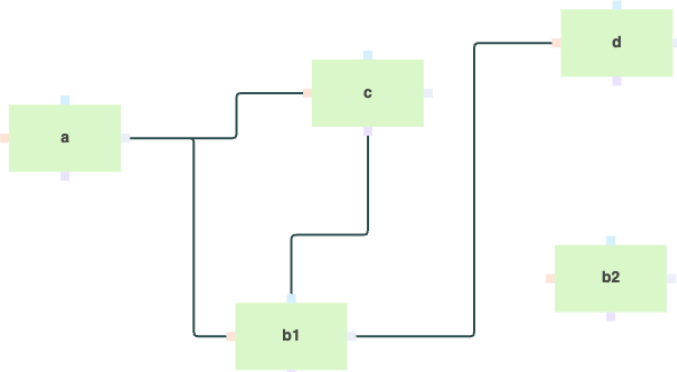
Console

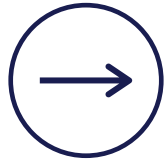
Violation in connectors definition for component: b2
Violation in connectors definition for component: b1
Violation in connectors definition for component: c
No mapping defined with RA for component: d
Violation in connectors definition for component: a

Code gen: 30 ms

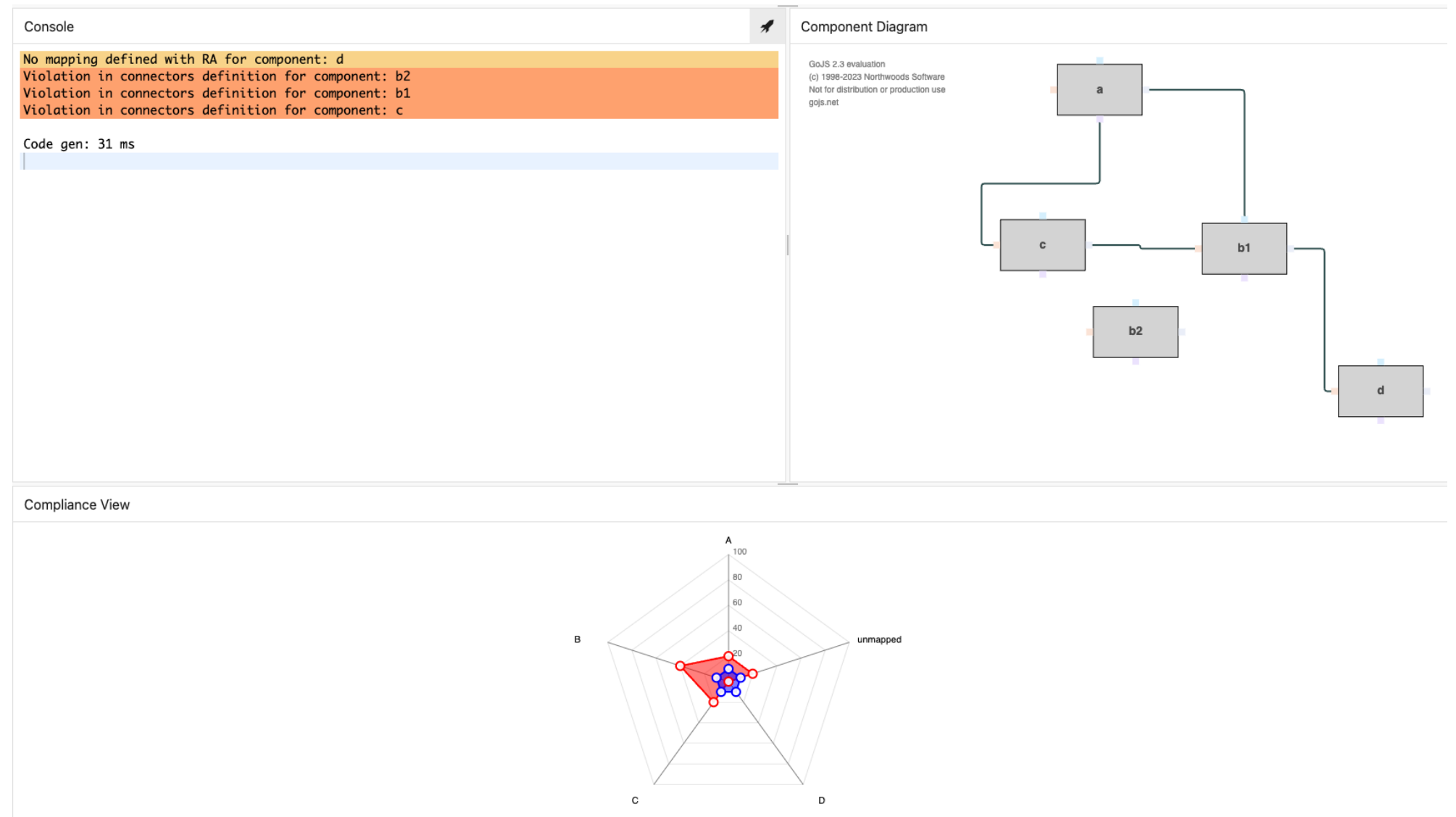
Component Diagram

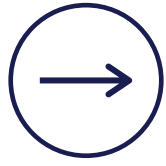
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Remarks?