

On the development of Quantified UX Metric

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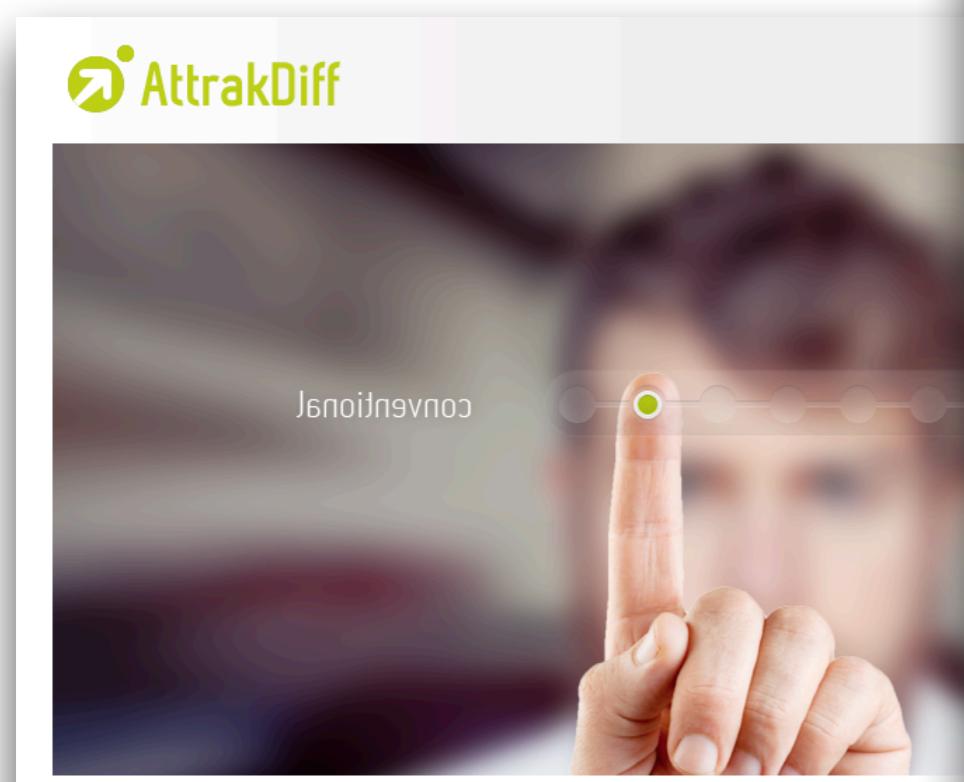
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Supervisor

Agenda

- **Motivation**
- **Design & Dev Process**
 - Stage 1: Paper Wireframe
 - Stage 2: Development
 - Stage 3: Working System
 - Demonstration
- **Design Principles**
 - Ant Design
 - ElementJS v.s. iViewJS
- **Summary**

Motivations



HELLO YOUR BENEFITS BACKGROUND FAQS

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UEQ-Online
User Experience Questionnaire

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User Experience Questionnaire (UEQ)

Measure the User Experience of your product fast, easy and flexible

Welcome to the User Experience Questionnaire (UEQ)
A Questionnaire to Measure the UX

hello, technology UID

A survey grid showing 26 pairs of adjectives from 1 (annoying) to 7 (enjoyable). The pairs include: not understandable vs understandable, creative vs dull, easy to learn vs difficult to learn, valuable vs inferior, not interesting vs interesting, unpredictable vs predictable, fast vs slow, inventive vs conventional, obstructive vs supportive, good vs bad, complicated vs easy, unlikeable vs pleasing, usual vs leading edge, unpleasant vs pleasant, secure vs not secure, motivating vs demotivating, meets expectations vs does not meet expectations, inefficient vs efficient, clear vs confusing, impractical vs practical, organized vs cluttered, attractive vs unattractive, friendly vs unfriendly, and conservative vs innovative.

Understanding The Theory

Area	Dimension	Scales	ID	Related Work
Look	<i>Appealing Visual Design</i>	How balanced and harmonic do you find the product?		
		Do you like the design, colors, fonts used in this product?	<i>d1</i>	
		Do you find the text:image ratio appropriate?		
	<i>Communicated Information Structure</i>	Does the product provide clear navigation and orientation?		
		How consistently is the content and information organized?	<i>d2</i>	[11, 20, 37, 61]
		Do you find the provided information understandable?		
	<i>Visual Branding</i>	Do you trust this brand?		
		Do you think this is an honest brand?	<i>d3</i>	
		Do you feel the brand is safe?		
Feel	<i>Mastery</i>	Do you find this product easy to use?		
		Do you find it easy to learn (and to remember) how to use the product?	<i>d4</i>	
		Do you feel you have full control over the product?		
	<i>Outcome Satisfaction</i>	How satisfied are you with the outcome?		
		To what extent are you feeling successful with the outcome?	<i>d5</i>	[29, 36, 35, 50]
		How happy are you with the outcome?		
Usability	<i>Emotional Attachment</i>	How pleasurable do you find using the product?		
		Does the process of using the product provide you with gratification?	<i>d6</i>	
		Do you feel excited when you are using the product?		
	<i>Task Effectiveness</i>	Do you think the product does what it is supposed to do?		
		Do you find the product effective?	<i>d7</i>	
		Does the product help you fulfill your task?		
	<i>Task Efficiency</i>	Is the product the fastest way to achieve your goal?		
		Is the product the most convenient way to achieve your goal?	<i>d8</i>	[26, 29, 49, 57]
		Does using the product fit with your schedule?		
	<i>Stability and Performance</i>	Does the system run smoothly?		
		Are errors handled well?	<i>d9</i>	
		Does the product work fast and responsively?		

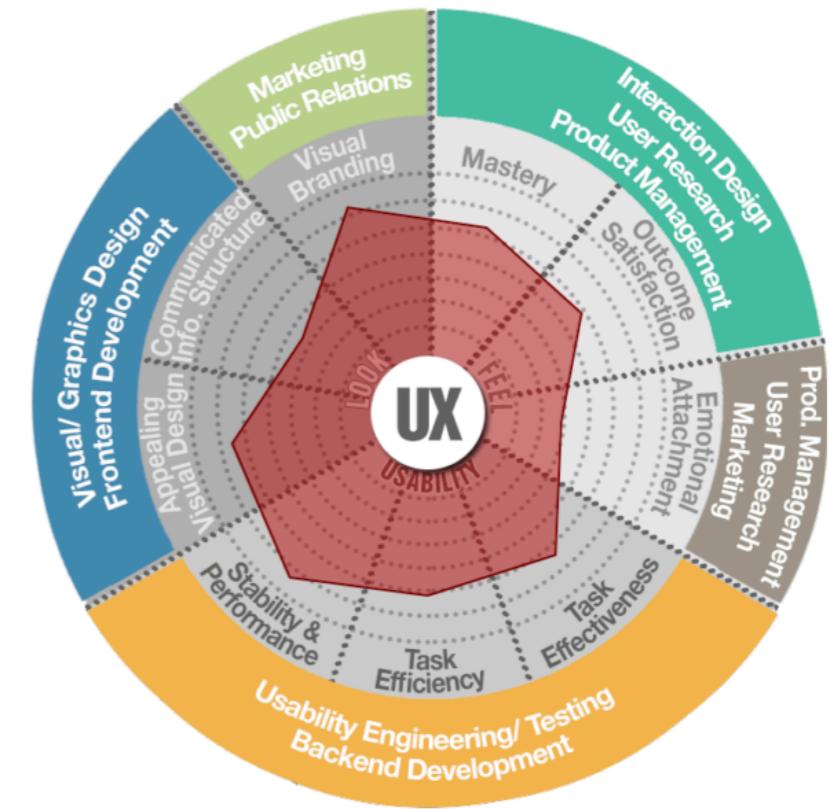


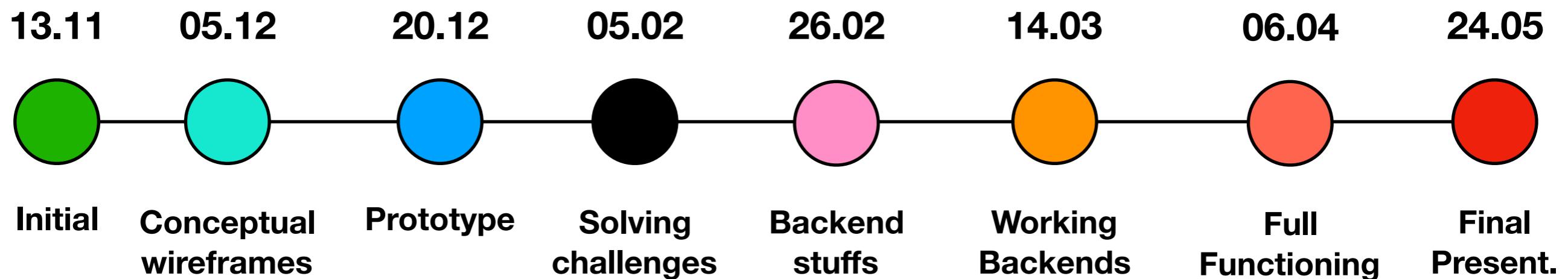
Table 4. Interdisciplinary UX dimensions with corresponding questionnaire items and related work for in-depth, follow-up analyses.

[Lachner et al. Quantified UX: Towards a Common Organizational Understanding of User Experience, NordiCHI'16]

General Goal

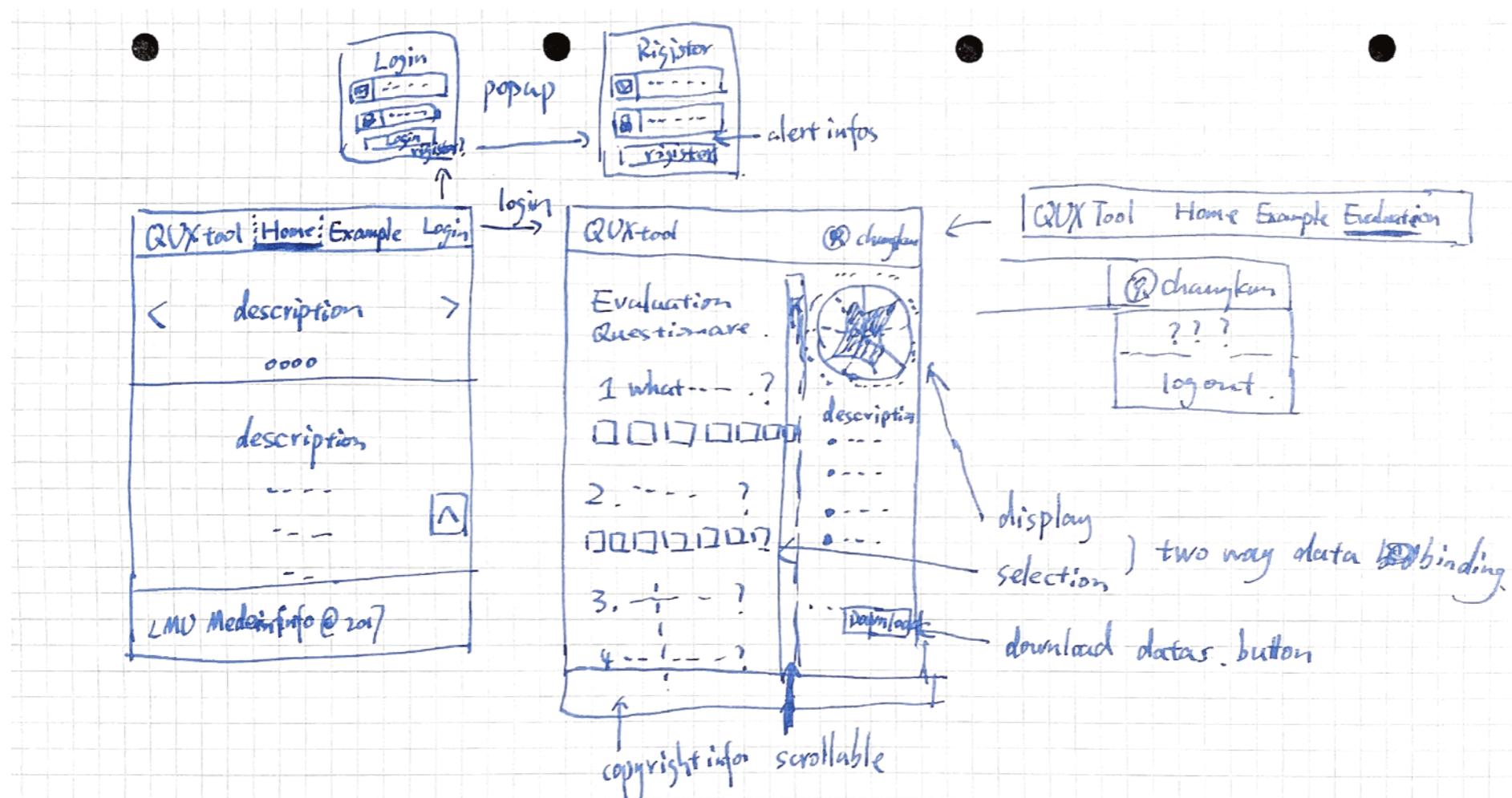
- *Developing a website serve the theory*

Design & Dev Process



Stage I: Paper wireframe v1

- Requirement Engineering: Misunderstanding of requirements



1. Theme color?

2. Desktop version?

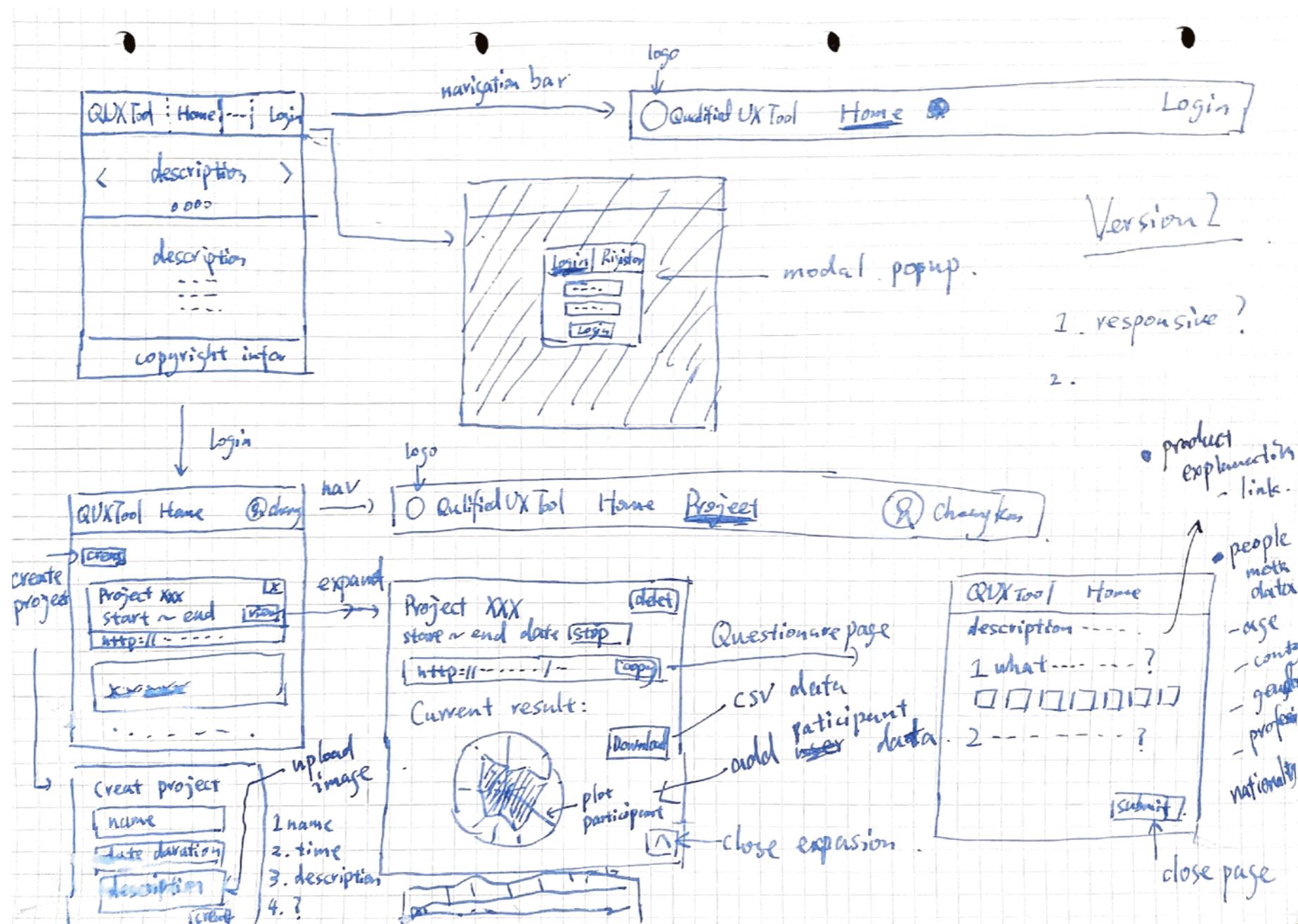
3. backend support?

- login user: email, name, company Version 1

country region geo position

Stage I: Paper wireframe v2

- Overall wireframe, requirements verification



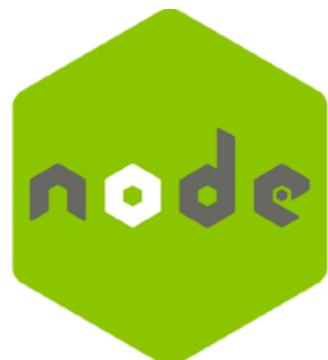
Framework Selection: Fullstack JavaScript



Element

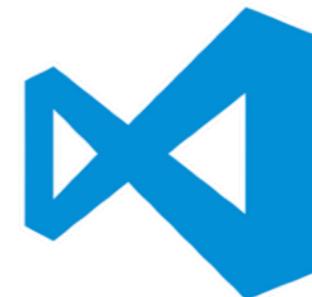


Frontend



express

Backend

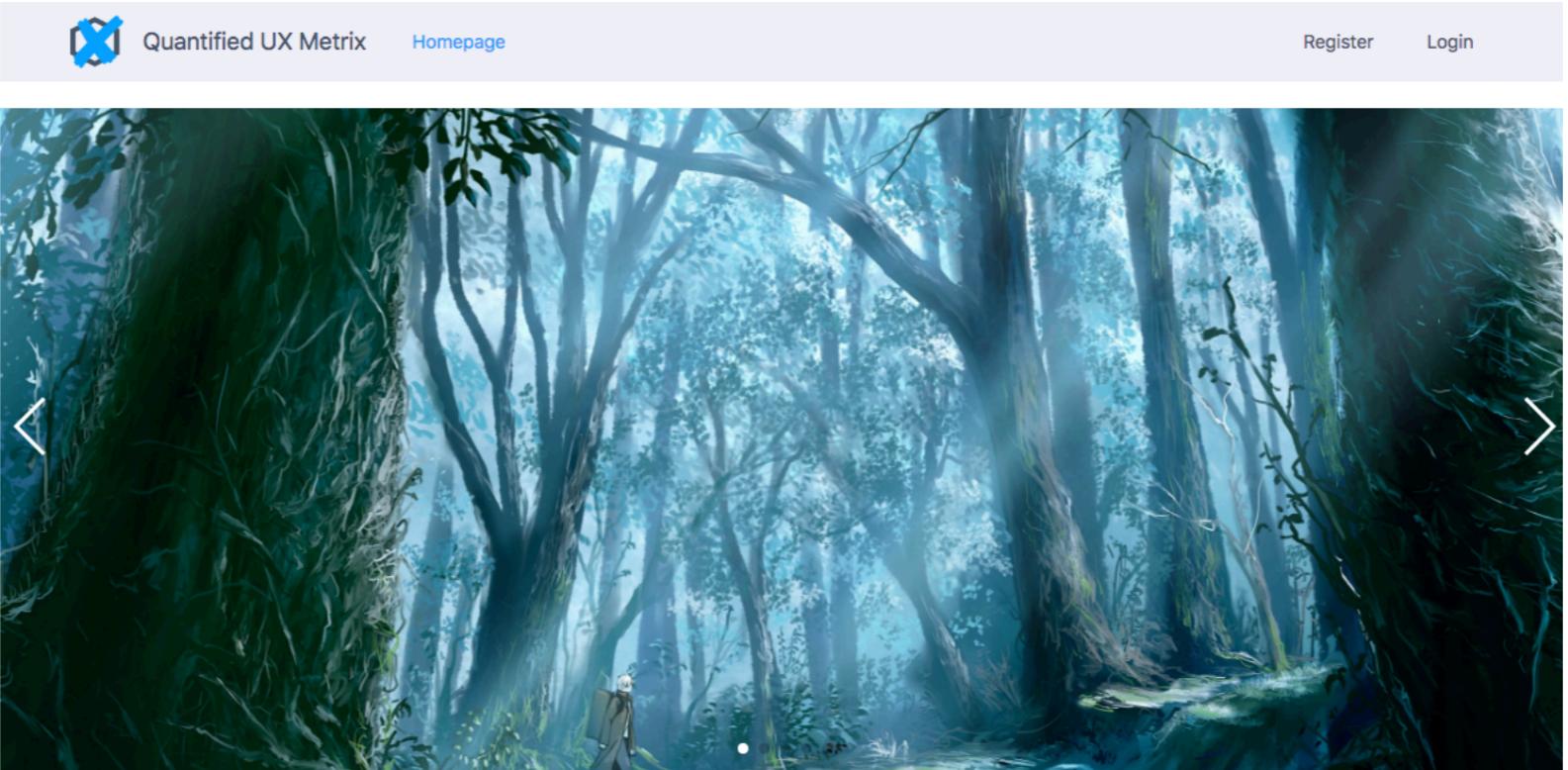


Devtool

Others: lodash, swiper, vue-router, vuex, babel, eslint, mockjs, vue-loader, webpack... **More than 70+ state-of-the-art technologies**

Stage II: Frontend

- Main Challenges
 - Design
 - Capabilities between frameworks
 - New technologies



The screenshot shows the homepage of the Quantified UX Metrix website. At the top, there is a navigation bar with a logo, the text "Quantified UX Metrix", a "Homepage" link, and "Register" and "Login" buttons. Below the navigation bar is a large, atmospheric illustration of a dense forest with sunlight filtering through the trees. In the bottom left corner of the illustration, there is a small white character. At the bottom of the page, there are three main sections: "Metrics", "Management", and "Visualization".

Metrics	Management	Visualization
Measures the User Experience of any product fast, easy and flexible	Manage all your studies	Visualize everything in one graph

Stage II: Working Backend

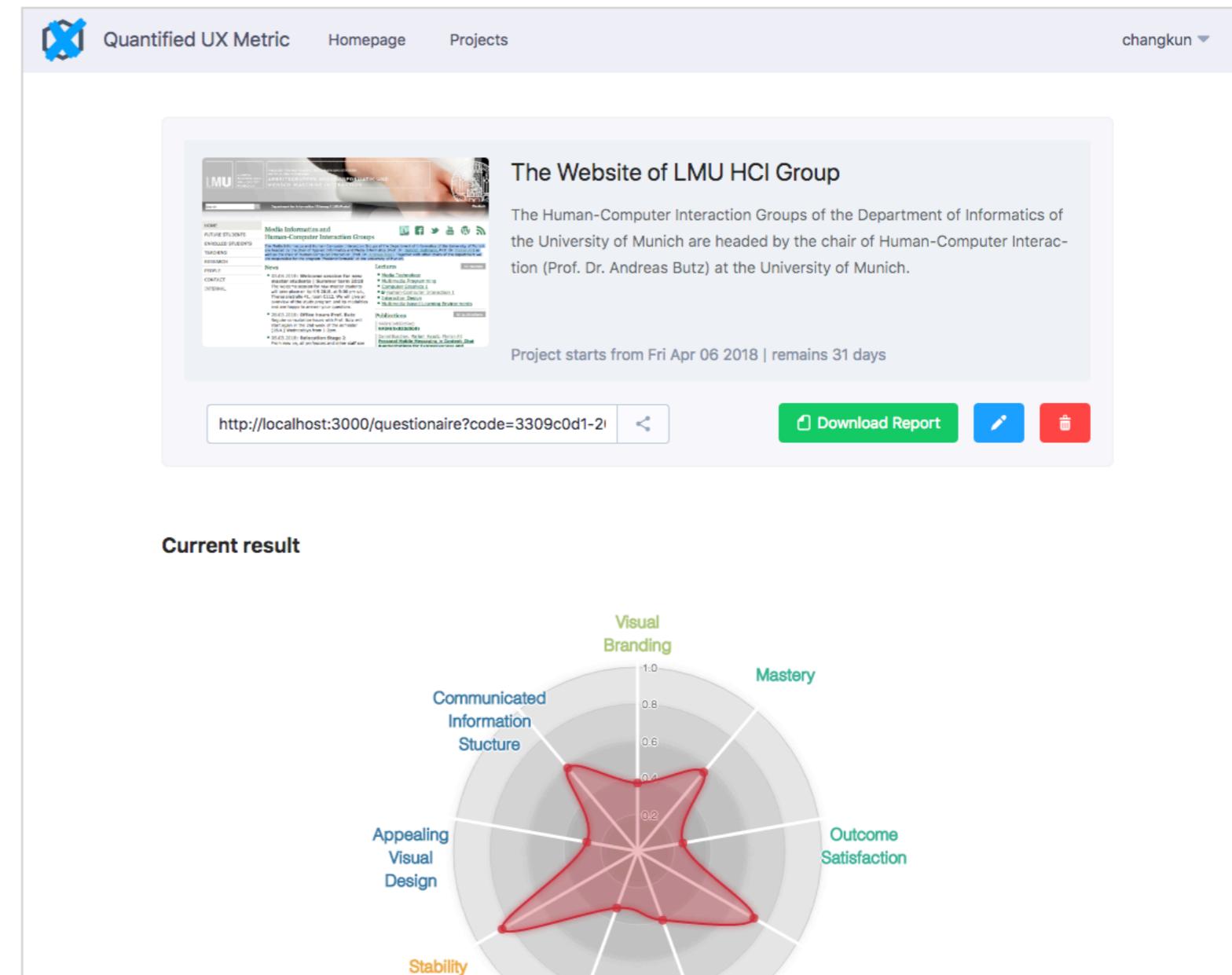
■ Testing APIs...

The screenshot shows the Postman application interface. The top navigation bar includes 'New', 'Import', 'Runner', 'My Workspace' (selected), 'Sync Off', 'Sign In', and environment dropdowns. The main workspace shows a 'History' tab with several recent requests. A specific GET request to 'localhost:3001/api/projects/' is selected. The 'Authorization' tab is active, showing 'Inherit auth from parent'. The 'Body' tab displays a JSON response with a success status of 200 OK, a duration of 1061 ms, and a size of 2.17 KB. The response body is a large JSON object containing project details, participants, and questionnaires.

```
1 {"success":true,"reason":null,"projects":[{"id":"9EF17D75-457F-4216-8BFA-49EB4AEFEC67","uuid":"E103BB18-B32A-475F-90F2-27FFF2FFC664","images":null,"name":"asdfasdf","description":"xxxxx","duration":10,"create_at":"2018-02-05T20:36:52.239Z","participants":[{"info":{"age":24,"gender":"Male","nationality":"CN","email":"test@xxx.xx","occupation":"Developer","questionnaire":{"d1":[12,13,14,15,16],"d2":[23,21,53,64,74],"d3":[23,21,53,64,74],"d4":[23,21,53,64,74],"d5":[23,53,45,64,74],"d6":[23,21,53,75,74],"d7":[23,21,53,23,74],"d8":[23,45,44,64,74],"d9":[23,21,89,32,74]}},{"info":{"age":12,"gender":"male","nationality":"CN","email":"temp@changkun.us","occupation":"programmer","questionnaire":{"d1":[12,13,14,15,16],"d2":[23,21,53,64,74],"d3":[23,21,53,64,74],"d4":[23,21,53,64,74],"d5":[23,53,45,64,74],"d6":[23,21,53,75,74],"d7":[23,21,53,23,74],"d8":[23,45,44,64,74],"d9":[23,21,89,32,74]}},{ "info": { "age": 12, "gender": "male", "nationality": "CN", "email": "temp@changkun.us", "occupation": "programmer" }, "questionnaire": { "d1": [ 12, 13, 14, 15, 16 ], "d2": [ 23, 21, 53, 64, 74 ], "d3": [ 23, 21, 53, 64, 74 ], "d4": [ 23, 21, 53, 64, 74 ], "d5": [ 23, 53, 45, 64, 74 ], "d6": [ 23, 21, 53, 75, 74 ], "d7": [ 23, 21, 53, 23, 74 ], "d8": [ 23, 45, 44, 64, 74 ], "d9": [ 23, 21, 89, 32, 74 ] } } ]}, {"id": "2f7d0980-27a9-11e8-a042-1d557be6cea9", "uuid": "2f7d0981-27a9-11e8-a042-1d557be6cea9", "images": null, "name": "Qux2", "description": "abcd", "duration": 10, "create_at": "2018-03-14T17:00:23.448Z", "participants": []}]}]
```

Stage III: Full Functioning System

- Main features:
 - Register/Login
 - Questionnaire Authorization
 - UX Project Management
 - Data Visualization
 - Report Download
 - 20+





Project Description



The Website of Quantified UX Tool

The Website of Quantified UX Tool provides a tool to quantify a product user experience. There are three property here: 1. Metrics: Measures the User Experience of any product fast, easy and flexible; 2. Management: Manage all your studies and researchers in a website; 3. Visualization: Visualize everything related to UX in ONE radar chart.

Project starts from Fri Apr 06 2018 | remains 16 days



Calendar Chart



Current results

The following charts are based on your participants answers.

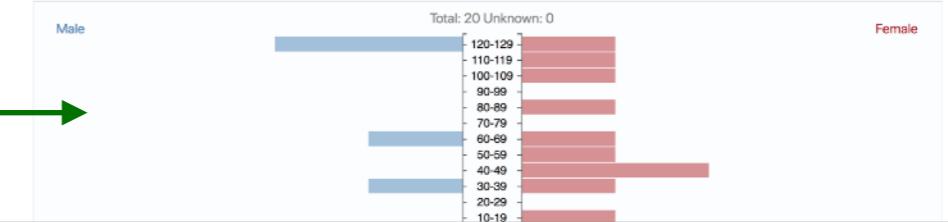
You can download your whole data set by clicking on the green download button for further analyses.



The UX Radar Chart



What is the age distribution of your participants?



Participants Statistics



Demonstration

Online Testing
at

www.ouchangkun.com

Available until the end of May 2018
Submit Bugs: hi@changkun.us

Design Principles

Should *Luke Wroblewski* responsible for the “Death” of Material Design?

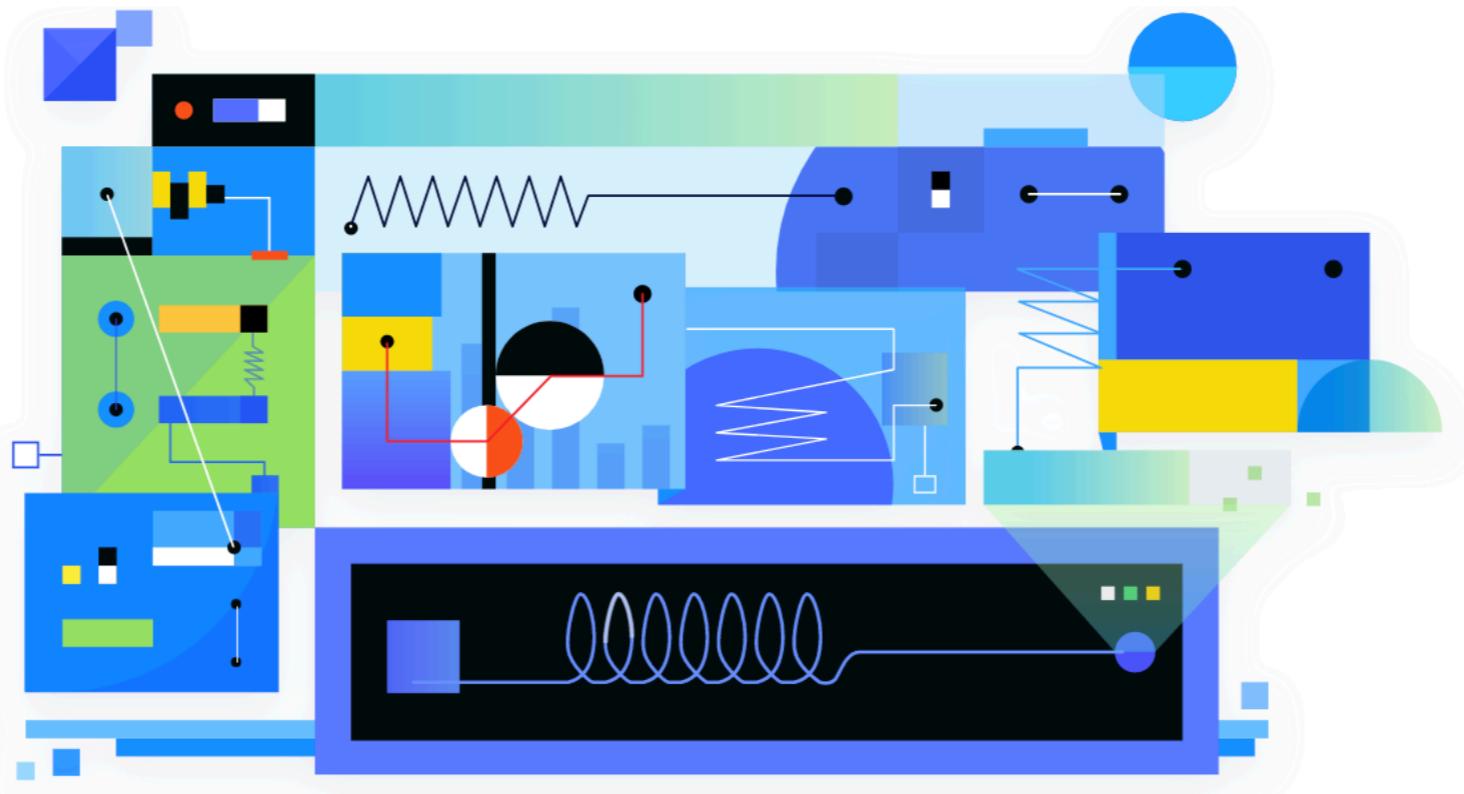
<https://www.zhihu.com/question/66894704>

TL;DR: Material design hasn't died yet, but its reputation and influence have reached a low point; the reason for the status quo is largely due to Google's own destruction of the norm, which has begun with Luke.

Design Language: Ant Design (Pro)

- Proposed by Alibaba Inc.
- Integrated in every Alibaba Inc. Products
- 1,000,000,000+ users, large-scale applications
- Only for *ReactJS*

TL; DR: Ant Design is a UI design language, which is abstracted and applied to enterprise-level back-office products.

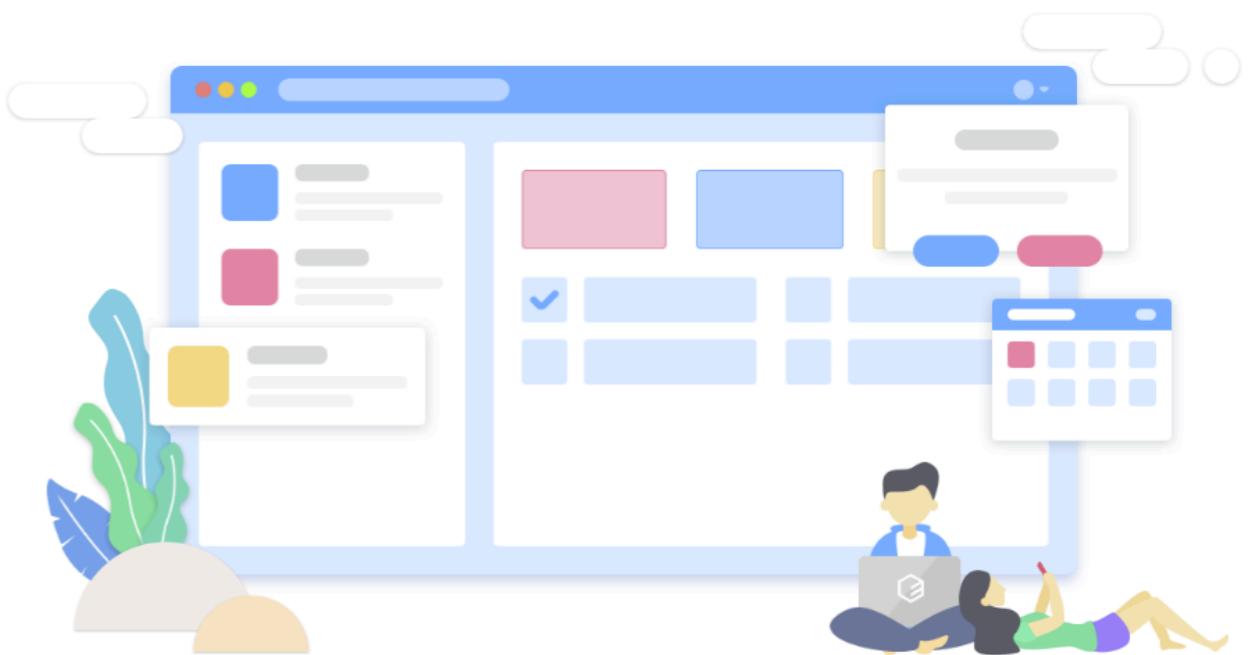
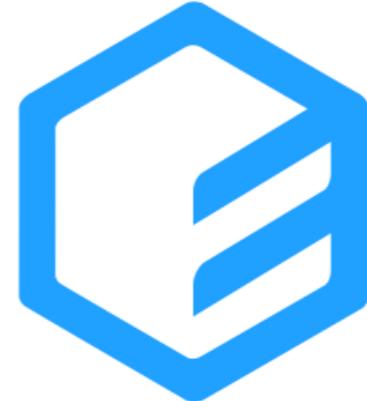


<https://ant.design/>
<https://pro.ant.design/>

Framework Adaption: ElementJS v.s. iView

- Other implementations of Ant Design
- Capable with VueJS

<https://element.eleme.io/>
<https://www.iviewui.com/>



Summary

- Lessens learned
 - Ant Design
 - Massive frontend technologies combination
 - The first time write both everything in JS
- Challenge
 - D3JS in VueJS
- Outlooks
 - Future features: Administrator UI
 - Machine learning analysis: outlier detection, etc.
 -