Exploring the information architecture of SAAS websites and optimising the user experience of dashboards

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Abstract

Digy4 is a company that provides support and tools for software testing. Digy4's SAAS product Digykube is designed to ensure that users' mobile applications and websites work flawlessly by visually giving them a clear view of the data from running UI automation tests, allowing them to find all the details and data about the tests in one interface that you can use in a different browser to use it.

I would explore and work on features that confuse the user and test what the user would see, such as wrong data, wrong fine-tuning parameters, wrong onboarding, etc. So I have a design direction for the digy4 product - to redesign the information architecture of the test site.

I will be refining the build information architecture, redesigning the dashboard to give users a better idea of their progress and where they are, and allowing developers to update and maintain the site in a more organised and logical way.

Introduction & Background

UI automation testing - Instead of having myriads of manual software testers, development teams have moved towards automating the biggest portion of their testing efforts. Automating their tests allows teams to know whether their software is broken in a matter of seconds and minutes instead of days and weeks. (Ricca, F.,2021)

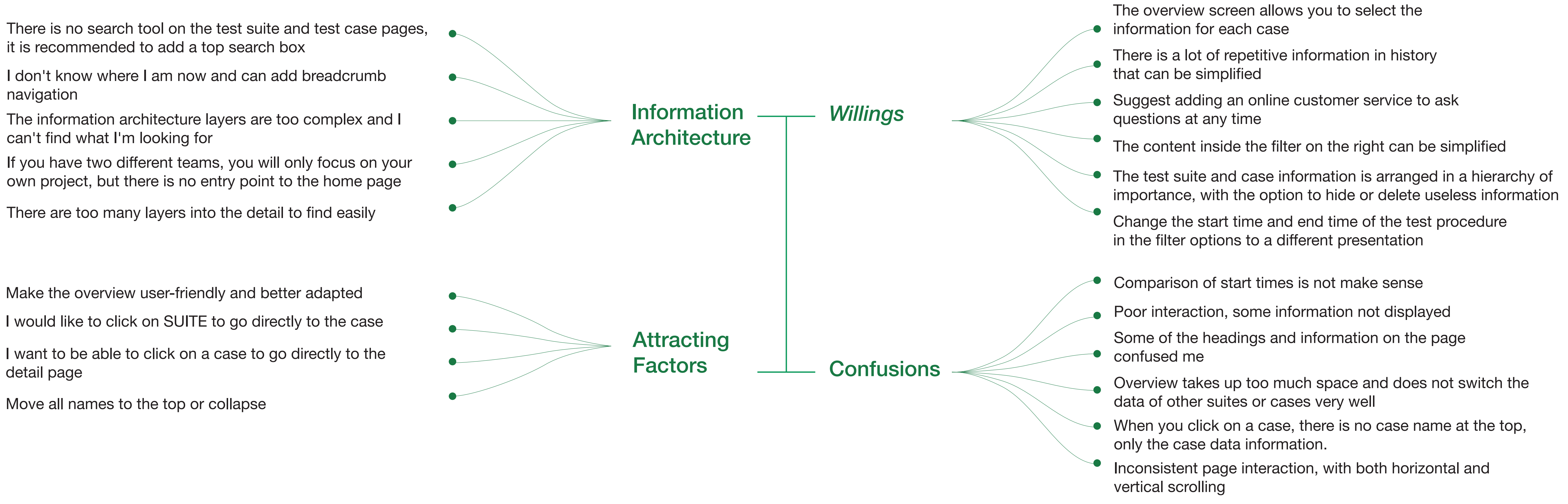
TaaS - Taas is a cloud-based automated software testing service.Test as a Service (Taas) provides an on-demand service model for software testing, with the entire process taking place in the cloud. This allows end-users to access different types of testing services using a pay-as-you-go model, thus enabling cost sharing and cost reduction. (Gao et al., 2013)

Information architecture - We must understand that the usability of the application depends not only on the interface design but also of its architecture - structure and organization, in otherwords, of the non-visible component of the design. (Rosenfeld et al., 2002)

Navigation design - It is important to reflect the primary and secondary navigation menu structure of the system. A common problem in designing functional modules is the confusion of the module hierarchy and the random placement of functions added later, which can confuse the users who use the system and the developers who code it. (Ostasevičiūtė et al., 2008)

Diagram / Design

Affinity Diagram



There is no search tool on the test suite and test case pages, it is recommended to add a top search box

I don't know where I am now and can add breadcrumb navigation

The information architecture layers are too complex and I can't find what I'm looking for

If you have two different teams, you will only focus on your own project, but there is no entry point to the home page

There are too many layers into the detail to find easily

Information Architecture

Make the overview user-friendly and better adapted

I would like to click on SUITE to go directly to the case

I want to be able to click on a case to go directly to the detail page

Move all names to the top or collapse

Attracting Factors

Willings

The overview screen allows you to select the information for each case

There is a lot of repetitive information in history that can be simplified

Suggest adding an online customer service to ask questions at any time

The content inside the filter on the right can be simplified

The test suite and case information is arranged in a hierarchy of importance, with the option to hide or delete useless information

Change the start time and end time of the test procedure in the filter options to a different presentation

Confusions

Comparison of start times is not make sense

Poor interaction, some information not displayed

Some of the headings and information on the page confused me

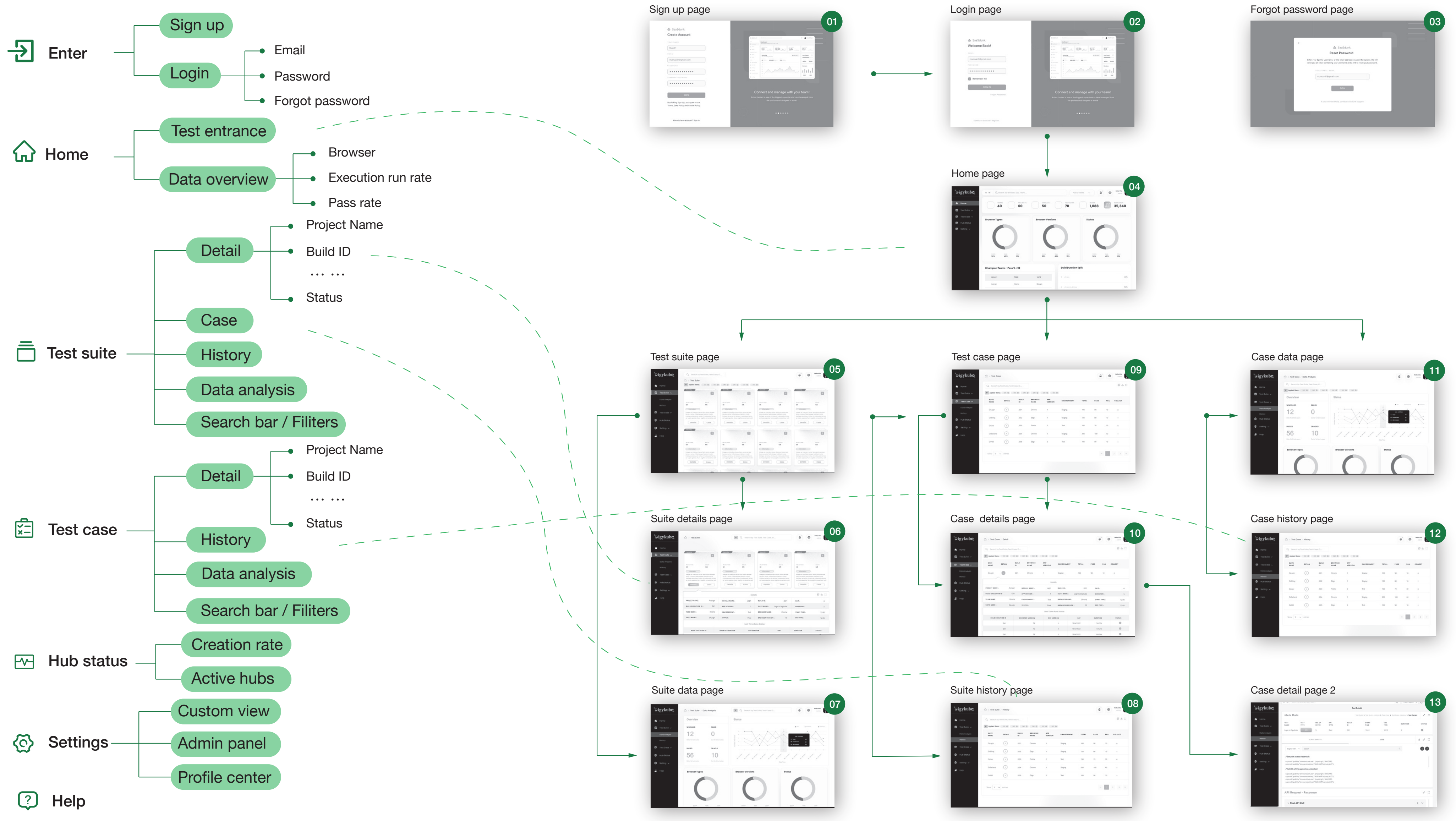
Overview takes up too much space and does not switch the data of other suites or cases very well

When you click on a case, there is no case name at the top, only the case data information.

Inconsistent page interaction, with both horizontal and vertical scrolling

Information Architecture

Wireframe



Enter
- Sign up
- Login
  - Email
  - Password
  - Forgot password

Home
- Test entrance
- Data overview
  - Browser
  - Execution run rate
  - Pass rate

Test suite
- Detail
  - Project Name
  - Build ID
  - … …
  - Status
- Case
- History
- Data analysis
- Search bar / Filiters

Test case
- Detail
  - Project Name
  - Build ID
  - … …
  - Status
- History
- Data analysis
- Search bar / Filiters

Hub status
- Creation rate
- Active hubs

Settings
- Custom view
- Admin panel
- Profile center

Help

Evaluation & Research Results

The questionnaire and in-depth interviews with experts made me initially aware of the importance of information architecture. This was followed by a card sort to understand how potential users categorise information, which helped to understand the mental model of the user.

I conducted a Contextual inquiry with experts and summarised the affinity diagram and redesigned the information architecture of the dashboard as well as the prototype diagram. I tested the old dashboard against the new one and evaluated it using the sus scale, receiving 15 valid responses. Based on the calculated data from the sus scale, I concluded that the old dashboard had a sus score of 25 and an average of 68, which is well below the average. The new version of the dashboard, on the other hand, had a score of 83.33, which was above the average. Overall, the information structure of the new dashboard is much clearer and easier to use than the old one.

Study Methodology

Surveys - I have summarised the features that users love most about automated testing and their opinions on using the testing software.

Card sorting - Sorting and categorising the importance of the dashboard's information architecture and functionality has enabled me to understand what users are thinking.

Contextual inquiry & Affinity Diagram - Interviews with experts and feedback from those using the dashboard summarise the pros and cons of the existing dashboard.

Conclusions

This dashboard optimises the information architecture of the entire system and reduces the existing information hierarchy. This reduces user confusion, presents a clear picture of the testing process and data, and redesigns the interface so that the user can learn and use the software more quickly.

Future Work

For short-term plan: When a new version of the dashboard goes live, gather as much user feedback as possible and update the features and interface in a timely manner. Conduct Heuristic Evaluation to improve the design of the dashboard and address the needs of users.

For Long-term plan: Using Agile and empathize, define, ideate, prototype and test. This is an iterative cycle. Depending on the needs of the project, the various steps can be carried out in parallel or the designer can move between stages as he designs the product.