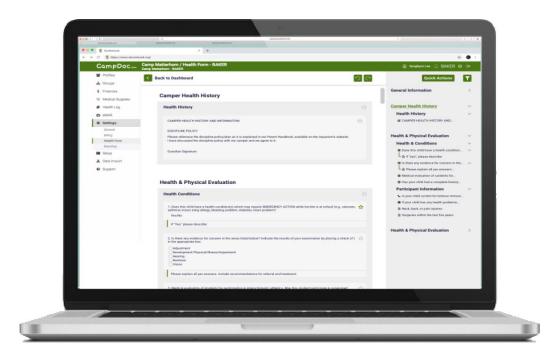
DocNetwork

Form Builder



University of Michigan School of Information

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Project Description

This project is developed under the cooperation of students of the School of Information at the University of Michigan and DocNetwork in the context of InfoLab, an initiative by the Office of Professional and Community Engagement at the University of Michigan.

Design Team:

Sulayman Ali:

Junior in the Bachelor of Science in Information program at UMSI, focusing on information analysis.

Ana Maria Cardenas:

UMSI Master's student focusing on UX Research.

Sanghyun Lee:

UMSI Master's student focusing on Human-Computer Interaction.

Gaby Tabachnik:

Junior in the Bachelor of Science in Information program at UMSI, focusing on UX design.

Project:

The design team worked over the period of 1 term in cooperation with DocNetwork on one of the company's signature software CampDoc.com, a health electronic record for camps. The project was focused on one of the product's internal tools called the Form Builder. This software is used by Account Managers (AM) to create and manage the forms that different camp organizations, clients of DocNetwork, use in their daily operations.

Currently, the AMs face productivity challenges as the software is not well adapted to their current workflow and presents challenges in terms of usability an interaction that makes the process of dealing with large forms from several organizations cumbersome and difficult.

General Methodology

The main objective proposed to the design team by DocNetwork was to improve the UX experience of account managers that use the form builder tool.

The group used a qualitative, user-centered research methodology to discover a design space, and iterate over design proposals that addressed the discovered needs and answered to the context, mental models and workflow of the account managers.

The general methodology can be described in three phases:

1. Problem Scoping: finding a design space that could be tackled with the time restrictions of the project.

- 2. Mid-Fidelity prototypes: iteration of UI prototypes based on wireframes and semi-structured interviews that relied on fast iteration of design proposals to address the main pain points and design opportunities discovered.
 - Each prototype was built on top of the preview's prototype findings and was tested with a research objective.
- 3. High Fidelity prototype: final design proposal that displays the proposed interaction and builds on top of the insights gathered from each prototyping session.

Problem Scoping:

Interviewees:

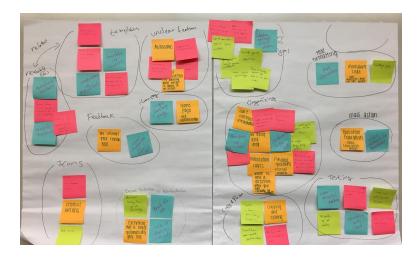
- Adam
- Lauren
- Jennifer
- Brad
- Joe
- Jessica

Methodology:

We developed initial unstructured interviews to find out:

- An overview of the form building process
- Understanding of the before and after of building a form
- Other tools involved in the process of building a form
- Interaction of account managers with other job roles while using the form builder
- An overview of the major pain points, difficulties, and strategies the account managers have regarding the form builder.

We analyzed the data gathered from this initial interviews and constructed an affinity diagram of our findings.



From this analysis we mapped three main areas of intervention:

Version Control

- Keeping track of history (edits, additions, permissions, activation/deactivation) of forms.
- Currently:
- AMs use the final version of the form to test
- Naming conventions of questions and headings are chosen by AMs
- There is no way to keep track of edit histories of forms
- No way to locate/view previous versions of questions
- Issues with the functionality of reusing questions
 - Summaries for templates
 - Ad-hoc versions of multiple selection options

Separation of In-Progress and Production Environments:

- Builder environment for in-progress forms and published forms is the same
- Currently:
- AMs must make multiple test profiles to ensure forms display properly to different user types
- Difficulty distinguishing between forms in progress of being built and published forms.
- Feedback from the client is delivered in a different platform (email)
- When dealing with long forms, remembering all necessary tasks of forms building may be problematic.

Organizing Questions

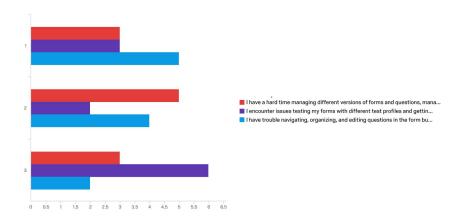
- Navigating, organizing, and editing questions cause trouble for AMs
- Currently:
- Navigating through large forms (many questions) is time-consuming
- Lack of mass actions for editing many questions
- Information overload due to lack of question grouping and lack of collapsing feature
- Lack of internal search feature to locate questions

To narrow down the project scope:

• We asked our contacts within DocNetwork's web development team (Connor and Nick) which of these areas should be prioritized in our redesign.

From this perspective, the resulting area to intervene was Organizing Questions

- "We need your help most on organizing questions because we'll be altering existing workflows; in such a scenario external, professional opinions and creative thinking are likely to make the biggest impact in our opinion." -- Nick
- We delivered a survey to the account managers where we asked them which area was more impactful for their workflow and why.



The results from the survey showed that the majority of AMs ranked "I have trouble navigating, organizing, and editing questions in the form builder" as their #1 pain point. Account manager's explained:

- "When a question is opened, edited and closed the placement on the screen shifts, so it can be
 difficult to go down the line making updates to each question, especially when questions look the
 same"
- "The time it takes to navigate the builder is a nightmare. Moving from section to section and accessing questions to make changes takes a long time to load and even longer to save."
- "It can be time-consuming, specifically with complicated forms, to complete a build. For examplewhen questions need to be moved to different steps or reordering questions within a step"
- "When managing over 100 accounts it can be hard to remember where you left off on a certain account, what changes you have already made, what changes you still need to make. There is nothing in the builder to show historical data"

Results:

We decided to focus our redesign in facilitating the navigation and edit process for the account managers. For this, our main insights were:

• The need to manage a large number of questions, applying changes to several of them, and modifying the general structure of the form.

- The separate workflows of returning versus new organizations. One is focused on creating questions from the organization documentation and another is focused on updating information, verifying permissions, reordering, and adding requested changes.
- The need to remember where an account manager last left off while working on an organization's forms.
- The visual stress caused by information overflow present in the builder.
- The deactivated questions origin is needed to have more context on finding deactivated questions and reactivating them.

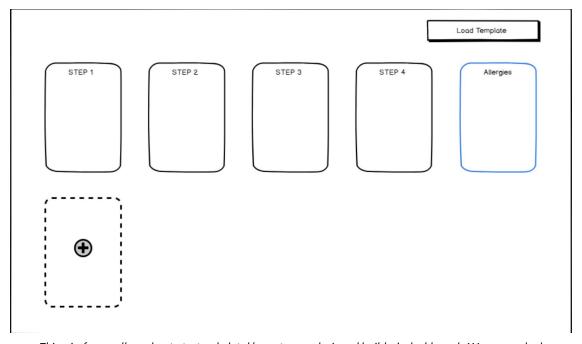
Mid-Fidelity prototypes:

Methodology:

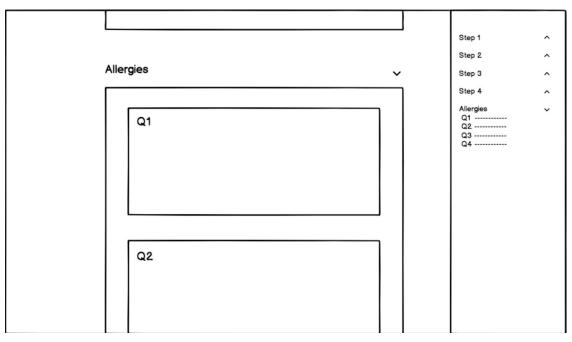
We designed three wireframes where we tested possible features that addressed the needs we found. We tested each wireframe with a semi-structured interview aimed to reveal more specific details of the pain points in the AM's workflow.

First wireframe: Dashboard and Navigation

Link to wireframe



This wireframe allowed us to test a skeletal layout our redesigned builder's dashboard. AMs were asked



This wireframe allowed us to test the layout of our edit mode redesign. AMs were introduced to a sidebar dedicated to navigating entire forms and how it would look alongside the question editor

Wireframe objective:

Wireframes were used to let AMs evaluate if the Information and tools necessary for the Builder are present in our design. The wireframes tested an overview of the 'Dashboard' screen and the 'Navigation' screen. The main concept behind the proposed design was to give AMs an overview vs detail approach to form building that allowed them to quickly navigate, access questions and edit the structure of the form.

The critical points addressed in the interviews were:

- How to summarize steps and questions
- What summary information of a form can help an AM find the point where they left off in the form building process
- How to quickly navigate a large form
- How to separate navigation from editing
- How to efficiently add questions in the desired section and move them within the form.

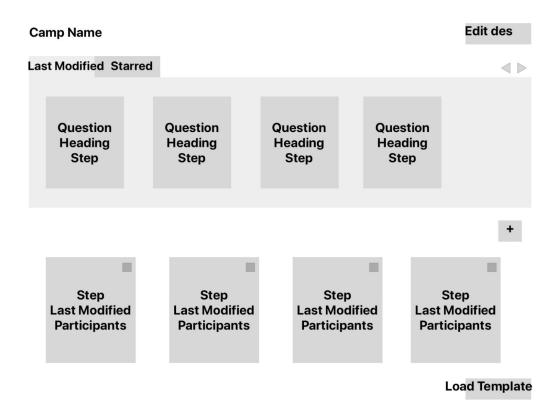
Results:

- Mass action is needed to apply large changes to the form like permission, expiration, deletion, and movement
- Collapsing in the navigation would prevent information overflow and make it easier to understand the structure of a form. The current builder's indentation makes it hard to

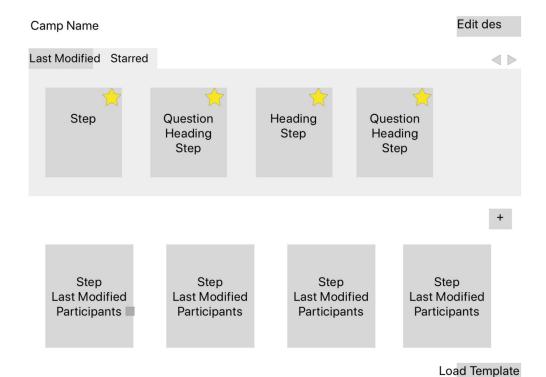
- understand where a question is located because it combines question editing with the navigation.
- The overview of the form in terms of steps does not add enough value yet. Additional information that can be useful is permissions.
- The concept of bookmark could be important as some questions are being discussed with the clients, need modifications or new permissions. The account managers would describe this as a 'to-do'

Second wireframe: Dashboard

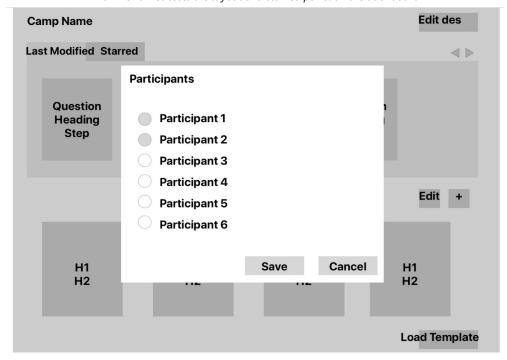
<u>Link to dashboard wireframe 1</u> <u>Link to dashboard wireframe 2</u>



This wireframe allowed us to test a refined version of our previous dashboard. This screen focuses on the last modified panel, which highlights the questions an AM was working on during their last session.



This wireframes tests the layout of a starred panel on the dashboard



This wireframe tests editing the participants of a step within the dashboard

Wireframe objective:

We wanted the AMs to evaluate whether the information and tools available on the Dashboard are useful and if all the information needed for the form building workflow was present. The wireframes tested a new version of the Dashboard, which implemented easy access to recently modified items, a 'starred questions' panel to bookmark questions, steps, etc, and included the ability to edit permissions at the step level.

The critical points addressed in the interviews were:

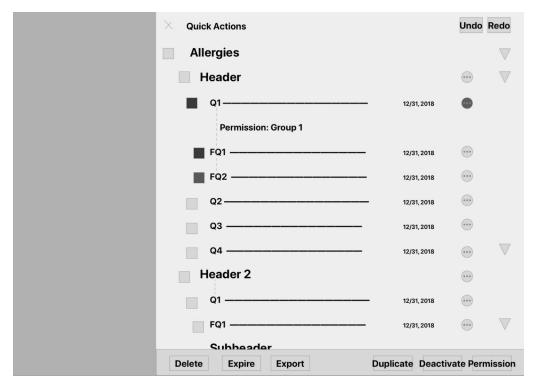
- What is the process to import or create a new form
- How can we structure the last modified in terms of information hierarchy (questions, steps or headers)
- Are headers a good mechanism to summarize steps
- How many levels (or how deep) can headers be
- How would AMs use the starred menu
- What is the process for restricting a form to certain groups

Results:

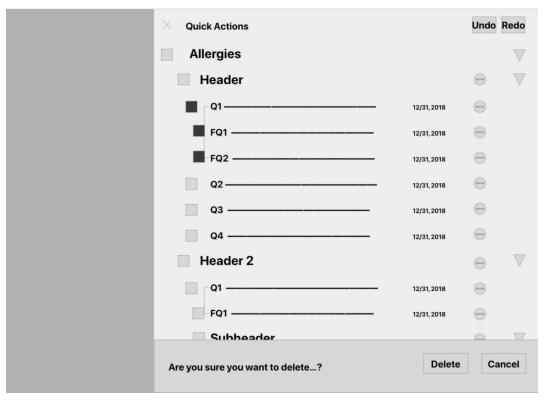
- When importing a form it could be useful to select the steps that the AMs want to import because importing all by default requires them to delete what they do not need afterward
- When displaying the last modified questions it is important to display the complete hierarchy as some questions can have repeated titles under different headers
- Not all AMs use headers so it is not a very effective mechanism for summarizing a step
- AMs do not use more than 3 levels of nested questions (form types) so that it could be
 problematic in the navigation view. However, follow up questions can go deeper and it is
 important to show the hierarchy for these questions (indenting) and to allow collapse and
 move them as a batch.
- AMs would use the stared menu as a holder for important questions that need to be updated or discussed with the client or with another AMs. It could be effective to allow the export of this questions in text format to send to organizations for discussion.
- The current process of overriding permissions is confusing and can lead to frustration if the
 individual permissions of questions are overridden by the permissions set on the step. It is
 more useful if the permissions are restricted to question level and can be changed all in one
 place.
- Expiration dates are important to have in the overview of questions and steps.

Third wireframe: Quick Actions and question edit mode

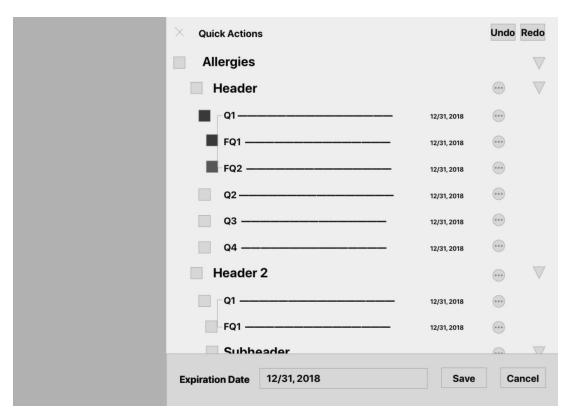
<u>Link to dashboard wireframe 1</u> <u>Link to dashboard wireframe 2</u>



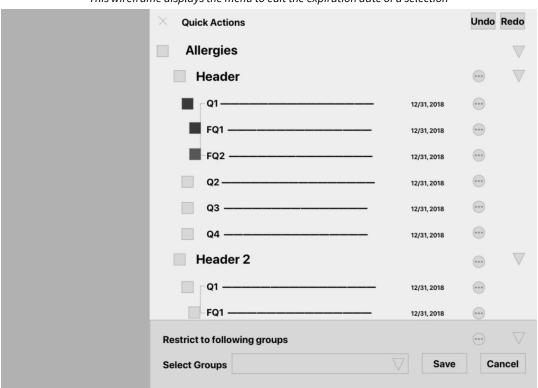
This wireframe displays the layout of the quick access menu, where edits to groups of questions or steps can be made



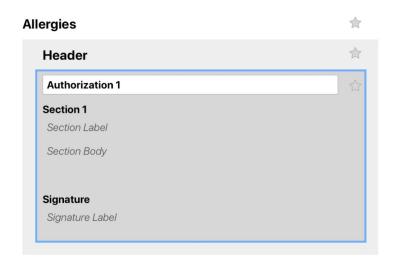
This wireframe displays the confirmation menu for deleting a question from the quick access menu

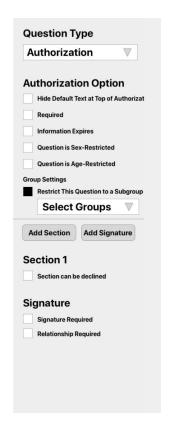


This wireframe displays the menu to edit the expiration date of a selection



This wireframe displays the menu for restricting a selection to a subgroup within the quick access menu





This wire frame displays the layout of the question editor. The authorization question is selected, with parameters displayed at the right.

Wireframe objective:

We wanted the AMs to evaluate the information and tools available on the quick access mode. The wireframes tested a new functionality for bulk actions called the quick actions menu. This menu encompasses the functions for modifying the general structure of the form: reordering questions and applying mass action modifications like deactivate, expire, duplicate and permission.

We also tested wireframes for the question edit mode. This mode aims to separate the navigation from form editing by allowing the AMs to input the question parameters in a separate menu so that the general form layout is not affected by the modifications on the question layout.

The critical points addressed in the interviews were:

- Assert if the distribution of information in the edit mode vs the navigation mode is intuitive and aligns with the users' mental model.
- Test the edit mode layout for different question types.
- Test the separation of question parameters in the side menu.
- Test the mechanics for duplicating and relocating questions
- Test the mechanics for assigning permissions and expirations date by mass selecting questions

Results:

- Separating the question preview and text fields from the question and question sections
 parameters alleviates the visual burden of concentrating all the question parameters in one
 place.
- Authorization is one of the most challenging questions and it shows that other question types can be accommodated into the split parameters format.
- Duplicating is more common than copying and pasting and the tool of cut is mainly used to move one question from one place to the other. If the process of moving questions is made easy by dragging and dropping, there is no need to have this tool anymore.
- The hierarchical structure should help to select several questions at the same time but should not override the permissions or expirations for one individual question.
- There is a need to easily access the questions with certain permissions assigned or certain expiration dates to verify if the correct permissions have been set.
- The AMs use the refresh button as a 'version control' tool where they can delete the changes they have made and not saved if they have made any mistakes and cannot go back in history. If no history is implemented it is important to maintain the concept of saving vs autosave because this allows the account managers to return to a previous stable state.
- The permission menu should include not only the group but also sex and age restrictions.

High Fidelity Prototype:

Link to wireframe

The following section will show the final design and the insights mapped into each feature that we propose. This prototype is the final result of the iteration of the Mid-Fi prototypes.

Some insights were left out of the final prototype that are worth considering:

Highlight

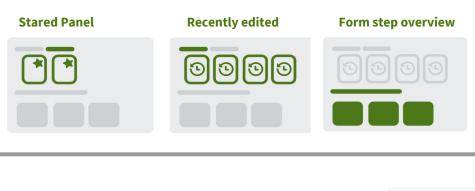
 When filtering, the current prototype will hide all the questions that do not match the search. We found that a highlight feature, that highlights the matched items but does not hide the ones that do not match, is important for workflows like checking permissions, where AMs can see if they missed any questions.

History

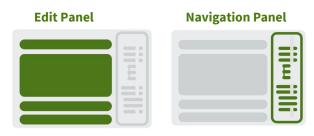
• Currently the refresh button is used as an 'undo' feature. We believe a history that allows AMs to backtrack features can help to prevent losing work sessions.

View as

Checking permissions is an important process, a feature that allows AMs to preview
the form as a certain profile from the builder can save time from current workflows
where they keep multiple tabs and have to create test users to preview the form.







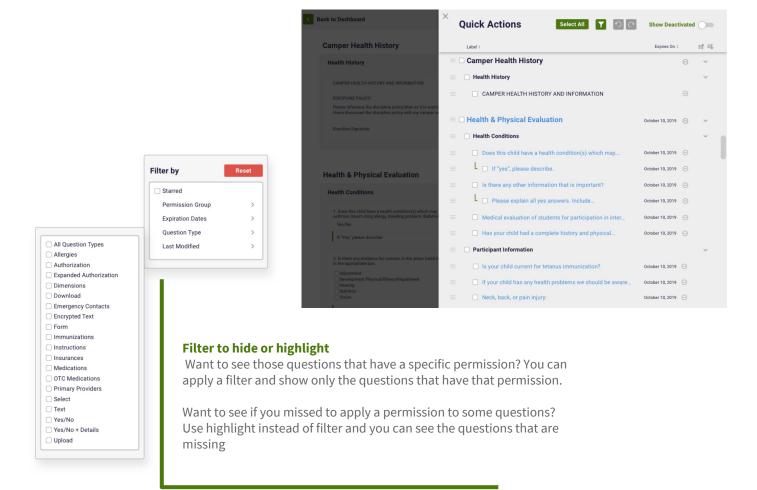


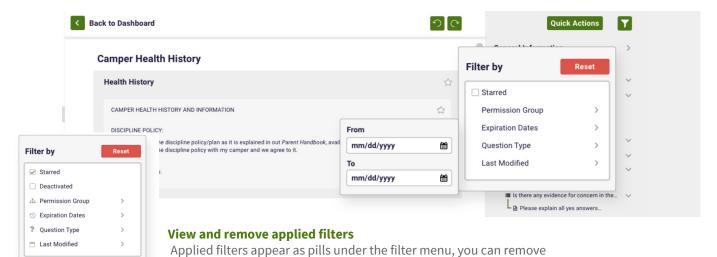
Filter











applied filters by clicking the x button on each pill

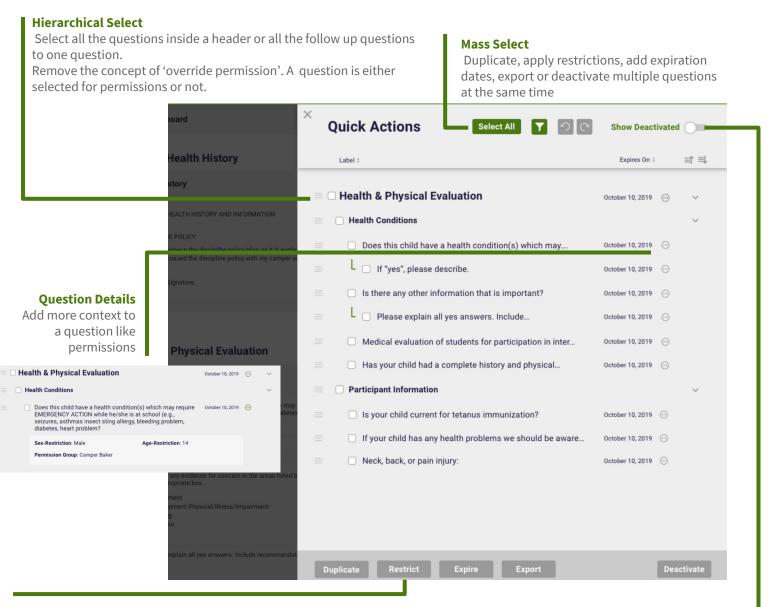
Starred × ? Allergies ×

? Yes/No × 🗂 12/31/2019 ×

Filter Cancel

Quick Actions Menu





Restrict CAMPER HEALTH HISTORY AND INFORMATION Only Show Selected Items to... Sex-Restricted Males Females Age-Restricted Age-Restricted Younger than Age Set Cancel

Apply Actions to Multiple Items Through

Check multiple questions and/or steps and apply any properties to them like group restrictions.

Deactivated Questions

Find deactivated questions with more context by checking the Show Deactivated toggle. Find where that deactivated question belonged before you bring it back

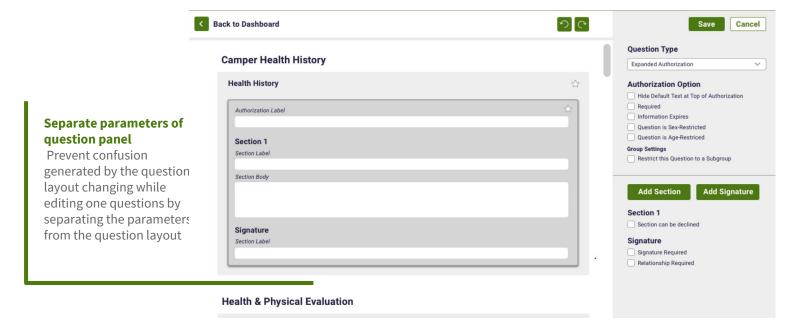
Labe	II \$			Expires On ‡	=1 =
	Has your child had a com	plete history and phy	sical	October 10, 2019	0
	Participant Information				~
	Is your child current for to	etanus immunization?		October 10, 2019	
	If your child has any heal	th problems we shoul	d be aware	October 10, 2019	
	Neck, back, or pain injury			October 10, 2019	
	_				

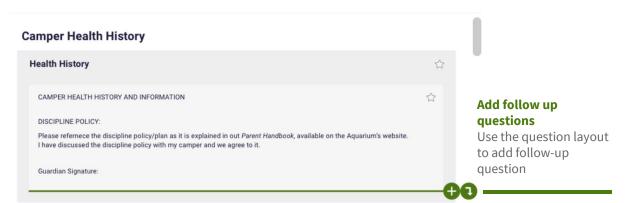
Edit Questions

Add Questions









Add sections or questions

Use the question layout to add sections, headers or questions in the desired location

