Hart Glazing Case Study

Difficulty Rating: Beginner

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KnowledgeKube

Introduction

Hart Glazing is a family-run company based in Connecticut, U.S.A that provide glazing services to private and commercial clients. A recent growth in popularity, prompted by a high-profile positive review, has made it difficult for the small company to cope with the full volume of telephone enquiries. They decide to set up an online questionnaire capable of gathering customer requirements and e-mailing them to Hart, who can assess them and respond accordingly.
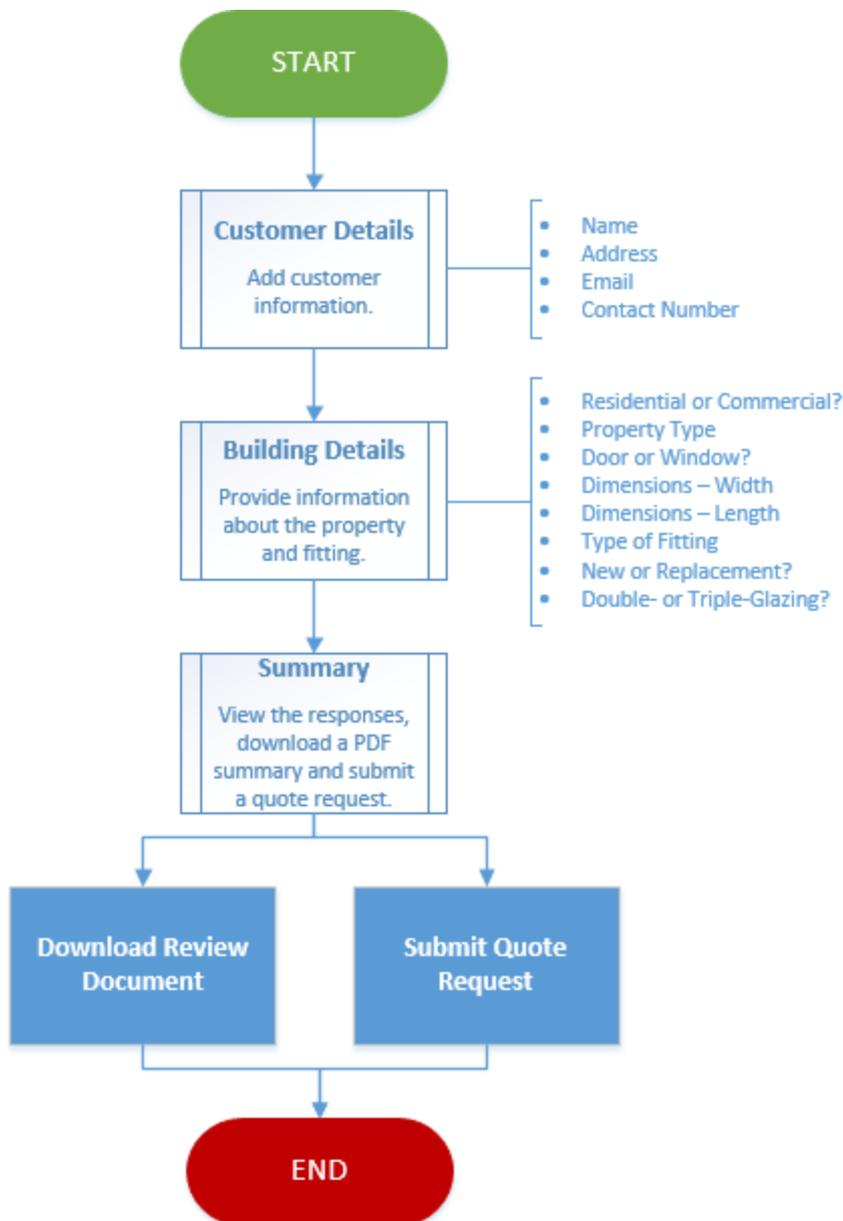

Figure 1-1: The proposed Hart Glazing questionnaire flow.

Building the Basic Model Structure

The Hart Glazing questionnaire model will need to contain three question groups, two of which will be used to gather the following information:

- The customer's contact details including their name, address, email address and contact number.

- Details of the property and fitting in need of glazing work, including property type and dimensions of the fitting required.

The final group will serve as a questionnaire summary, displaying the answers provided by the customer throughout the questionnaire and giving them the option to request a quote.

Creating the Initial Question Groups

Start by adding two **Form**-type question groups to your model. The first will be used to gather contact details, while the second will capture information about the customer's building in need of glazing work. Give each group a name that suits and identifies its purpose.

As with all new question groups, your forms will be **Checked In** and unavailable for edit, so make sure you check them out before attempting to edit them. Remember to check all question groups in afterwards, to get yourself into the habit of making content available to other editors when you have finished with it.

Before you start to populate your forms with questions, you should add **Navigation Buttons** that will allow people to move back and forth between the groups. Hart Glazing have asked for the contact details form to appear first, so make sure you set this form as your model's **Startup Group**.

Adding Questions

Now you have the foundation of your questionnaire, you can start to create content for the customer to read and fill in. You have been asked to add questions to the **Contact Details** form that collect the following information about the customer:

Information	Question Type
Surname	Free Text
Forename	Free Text
House number and Street Name	Free Text
District	Free Text
Town/City	Free Text
Postcode	Free Text
Country	Free Text

Information	Question Type
E-mail address	Email Address
Contact Number	Number

> 💡 You may find it easier to add **Free Text** questions to this group using the **Create Questions (From CSV)** method.

The **Building Details** form, meanwhile, should contain questions that gather the following information about the customer's property:

Information	Question Type
Whether it is a residential or commercial type building.	Multiple Choice
What sub-type of building it is.	Multiple Choice
Whether the customer requires glazing on a window or a door.	Multiple Choice
The sub-type of fitting to be glazed.	Multiple Choice
Fitting length, in centimetres.	Number
Fitting width, in centimetres.	Number
Whether it is a new or replacement glazing.	Multiple Choice
Whether the quote is for double- or triple-glazing.	Multiple Choice

> 📋 Don't add any responses to the multiple choice questions yet - these are discussed during the next section of the case study.

Add all questions in your model to the **Expression Parser**, so their values can be used later when you create your questionnaire's summary form. Next, add narrative questions to your forms, so Hart's customers know what they are filling in, and why.

Adding Responses to Multiple Choice Questions

Each of the multiple choice questions in the **Building Information** form require a unique set of responses. The first question simply needs to offer the customer a choice of two building purposes:

- Residential

- Commercial

The building sub-type question needs a response list containing a mixture of residential and commercial building sub-types. Later, you will add dynamic visibility to ensure that the available responses depend on the answer to the previous question:

- Detached

- Semi-Detached

- Terrace

- Flat

- Retail

- Office

- Healthcare

- Leisure

Assign the following responses to the fitting type question:

- Door

- Window

The fitting sub-type question needs a response list containing a mixture of door and window sub-types. Later, you will add dynamic visibility to ensure that the available responses depend on the answer to the previous question:

- Bi-fold

- UPVC

- French

- Patio

- Casement

- Sash

- Bay

- Slider

- Stationary

Finally, add a default place holder response to each of the multiple choice questions, and ensure that in each case the default response cannot be left as the customer's chosen answer.

Enhancing the Questionnaire

Now you have a basic questionnaire structure, you are going to start adding a layer of automation to your model. Specifically, you will cause certain multiple choice responses to be hidden depending on the customer's answers to earlier questions.

Adding Response Attributes

Some of the multiple choice questions you have created up to now contain responses that should only appear under specific circumstances. To this end, assign **Visibility Expression** attributes to the following responses to ensure they are only available when the corresponding condition is met:

Question	Responses	Only appear when...
Building sub-type.	Detached, Semi-detached, Terrace, Flat.	The answer to "Is the building residential or commercial?" is **"Residential"**.
Building sub-type.	Retail, Office, Healthcare, Leisure.	The answer to "Is the building residential or commercial?" is **"Commercial"**.
Fitting sub-type.	Bi-fold, UPVC, French, Patio.	The answer to "Is the fitting a door or window?" is **"Door"**.
Fitting sub-type.	Casement, Sash, Bay, Slider, Stationary.	The answer to "Is the fitting a door or window?" is **"Window"**.

> Remember that in order for a visibility expression to work correctly, the respective trigger question must be added to the expression parser and made to post back to the web server.

Concluding Your Questionnaire

When the customer has finished filling in your questionnaire, they should be provided with some feedback. Specifically, they will be presented with a form that summarises their answers and gives them the option to go back and change their answers if necessary.

As soon as the customer is happy that their answers are correct, they should click a button to both confirm this fact and submit their request. Submitted requests will be e-mailed to Hart Glazing, who can assess the customer's requirements and get in touch with them to potentially offer them a quote.

The customer will be given the option to download a PDF document containing the information they supplied during the questionnaire. Whether or not they decide to do this, a confirmation e-mail will be sent to them upon submission of their request.

Writing Confirmation E-mail Templates

You should now create two **E-mail Templates**: one for generating confirmation e-mails to the customer, and one for sending details of the customer's request to Hart Glazing:

- The template for customer e-mails should include a salutation, suitable customer-friendly text thanking the recipient for their enquiry, and a means of presenting the questionnaire data in an easily-readable manner. Just as it begins, the e-mail should be signed off professionally.

- The template for enquiries sent to Hart Glazing should be functional rather than personable, with the minimum amount of static text required to let the recipient understand the e-mail's contents. As with the customer e-mail template, the questionnaire data should be presented in an easily-readable format so it can be extracted and used to produce a customer quote.

In both cases, you will need to make use of dynamic keyword tags wrapped with double tilde (~~) characters. These tags will transpose data from the questionnaire to create a bespoke e-mail for the customer that submitted the request. Give each template a suitable subject and keyword as you save them for later use.

Creating a Document Template

After completing the questionnaire, the customer may wish to download a record of the answers they supplied. To allow this, you will need to create a **Word Template** in KnowledgeKube that presents the customer's requirements in an effective and logical manner.

As with the customer e-mail template, you will need to ensure that the information is given an easily-readable layout. Consider adding flourishes such as a company logo and letterhead, so the user can print the document and have immediate access to Hart Glazing's contact information.

You will need to embed data fields using double-tilde (~~) formatting; ensure that each field is paired with an appropriate label so the customer knows what they are looking at.

Building Your Summary Form

Create a third **Form**-type question group to serve as your questionnaire's summary. Place a narrative at the top of the page to thank the customer for their enquiry. The narrative should also ask the customer to review their answers before either returning to an earlier page to make corrections, or confirming they want to submit their request.

Next, add a series of **Read-Only Text** items to the summary. Each one should correspond to a question that the customer has been asked during the questionnaire. Using attributes, map the answer of each question to the corresponding read-only text. There is a lot of information to display, so consider carefully the order in which the answers should appear, and whether or not the summary would be best split into multiple columns.

Add another navigation button to the **Building Details** form. The customer should be able to use this button to progress to the **Summary Form**. Then, add a navigation button to the summary form to allow the customer to return to their questionnaire and change their answers as needed. Give the second button a caption that makes it clear the customer will be able to change their answers.

Add a regular button to the summary to let the customer download a copy of their submission. Assign a *ShowDocument* function to allow the customer to generate a report based on your document template.

Finally, add a regular button to the bottom of your summary page. This button allows the customer to submit their answers, resulting in the following:

- The buttons for returning to an earlier part of the questionnaire and submitting the answers should be disabled using **Enable Expression** attributes, to prevent changes being made or the questionnaire being submitted a second

time.

- Two e-mails should be sent. The first, using the customer-friendly e-mail template, should be sent to the e-mail address supplied by the customer. A second e-mail using the stripped-down template should be sent to Hart, to inform them of the customer's enquiry.

- An additional narrative question should appear, confirming a quote request has been submitted and thanking the customer for their interest. A suitable **Visibility Expression** will need to be applied to this narrative after you have created it.

> 💡 Enable expression and visibility expression attributes rely on a particular condition being met. One of the best ways of implementing them in this example is to create a variable whose value starts off as 0, and changes to 1 when the customer submits their request. Both types of attribute can rely on the value of this single variable.

Create all of the questionnaire elements required to fulfil the submission process. Don't forget you can use semicolons to create **Multi-line Expressions** that accomplish all of the above with a single button click.

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Abstract

The Hart Glazing case study is intended to demonstrate of some of KnowledgeKube's core features. The finished product allows collection of data, makes use of dynamic visibility, and allows manual and automatic retrieval of template-driven reports.

During this study you will construct a questionnaire that lets potential customers request quotes from a glazing company called Hart Glazing. Users of the questionnaire are asked to provide contact details together with information about the property for which they require glazing work. Upon completion of the questionnaire, both the customer and the supplier will be e-mailed details of the submitted request, and the customer will be given the option to download a receipt of their enquiry.

Prerequisites

In addition to an understanding of the KnowledgeKube features covered herein, you will need the following in order to complete this case study:

- Access to a working copy of Microsoft Word, and the ability to create a simple yet engaging report document.

- Optionally, the means to obtain or create a company logo for use in the Microsoft Word report.