

# 1 User Guide

## 1.1 User Interface

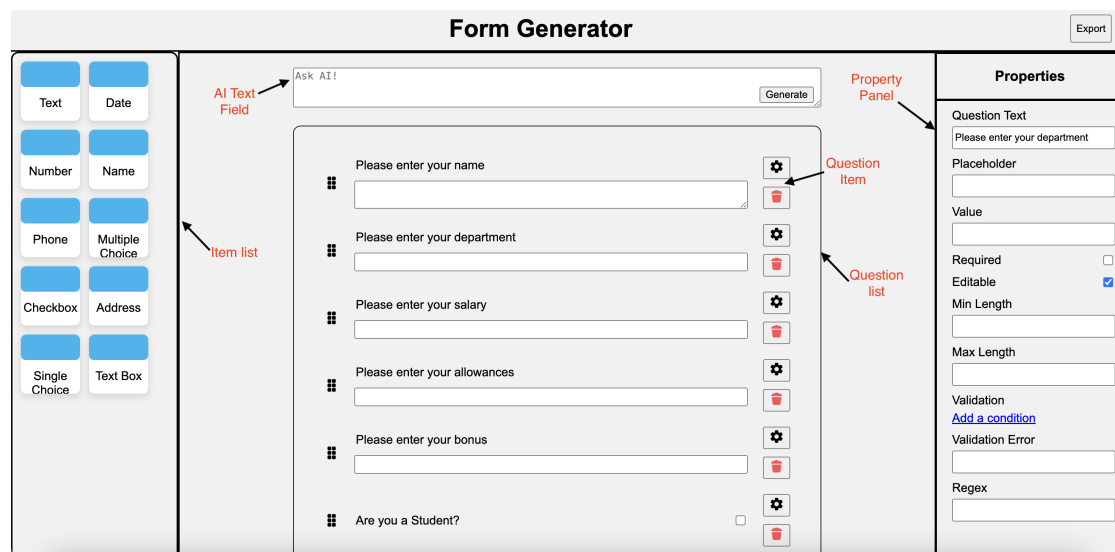


Figure 1.1: Image of the website with labels

To create a question, simply drag the item card from the item list and drop it into the questions list. Each dropped item is converted into a question item, which consists of two parts: a question input field and a group of answer input fields. The number and structure of the answer fields depend on the type of item dragged. The form creator can enter the question text in the question input field and prepopulate the answer fields with values for the form submitter. Each question item has a drag handle to reorder the item within the question list and a delete button to remove the item from the list. To edit properties related to the question item, users can click the settings button to open the property panel. The property panel contains the following properties that can be edited:

- **Question Text:** Represents the text of the question to be asked in the selected question item.
- **Value:** Prepopulates the answer field with a value. Present only in the panel for

question items with a single answer input field, like text, number, date, etc.

- **Placeholder:** Represents the placeholder for the answer input field. Only compatible with question items with a single answer input field.
- **Required:** Indicates whether the given question item must be answered by the form submitter.
- **Editable:** Indicates whether the value entered in the answer input field by the form creator can be edited by the form submitter. Available only for question items with a single answer input field.
- **Min Length:** Works with question items of type text, number, and text box. Represents the minimum length of input expected to be entered by the form submitter if the type is text or text box and the minimum value if the type is number.
- **Max Length:** Works with question items of type text, number, and text box. Represents the maximum length of input expected to be entered by the form submitter if the type is text or text box and the maximum value if the type is number.
- **Add a Calculation:** Opens a calculation box to define a calculation formula using multiple question items.
- **Add a Validation:** Opens a validation box and creates a validation condition using multiple question items.
- **Validation Error:** Represents the error message to be shown if validation fails.
- **Regex:** Allows entering a regular expression to validate a string input. Compatible with text and text-box.

The screenshot shows a 'Calculation' dialog box. At the top right is a 'SAVE' button. Below the title 'Calculation', there is a 'Value:' label followed by a sequence of dropdown menus. The first dropdown is '(', followed by '1. Please enter your sala', then '+', then '2. Please enter your allo', then '+', then '3. Please enter your boni', then ')', then '\*', then '0.19', then 'END'. Each dropdown menu has a small downward arrow on its right side.

Figure 1.2: Calculation box

In Figure 1.2, a calculation box can be seen. Here, the formula  $(question1 + question2 + question3) \times 0.19$  is formulated using dropdown lists. The box has 5 types of dropdown lists: Openbracket, Closebracket, Operand, Operator and Lastmenu. The Openbracket and Closebracket dropdown lists allow users to enter opening and closing round brackets, respectively. Operand allows to input questions or numbers as operands to a calculation. Operator contains all the operators like +, - etc., to add to the calculation formula. Lastmenu also contains all the operators and the END keyword. Any operator in this dropdown can be selected to extend the formula by adding a new set of dropdown lists in the same or next line. END allows users to end the calculation formula. An example of the construction of a calculation formula is shown in the section 1.2.



The screenshot shows a 'Validation' box with a 'SAVE' button in the top right. Below the title, there are two lines of conditions. Each line starts with 'If' followed by a dropdown menu. The first line contains: '3. Please enter your sala', '>', '5. Please enter your boni', ')', and 'And'. The second line contains: '3. Please enter your sala', '>', '4. Please enter your allow', ')', and 'END'. Each of these elements is a dropdown menu.

Figure 1.3: Validation box

The Figure 1.3 shows a validation box containing the condition  $(question1 > question2) \&\&(question1 > question3)$ . Similar to the calculation box, it consists of 5 types of dropdown lists. The Openbracket, Closebracket, and Operand are the same as in the calculation box. The Operator contains the comparators for number operands like <, >, etc., and "equals", "starts with", etc., for text operands. The Lastmenu contains three options: OR, AND, and END. OR and AND allow users to extend the validation condition by connecting two sets of conditions. The END keyword here also marks the end of the validation condition.

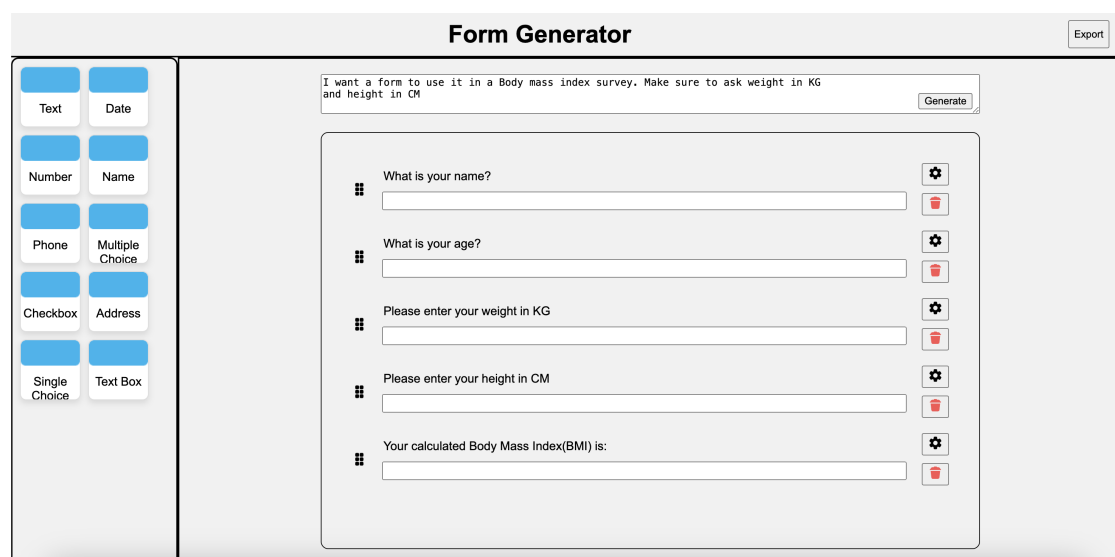
The form creator has the possibility to use AI to create question items without dragging them from the item list. Simply type a short description about the purpose of the desired form in the text box above the question list and click on the "Generate" button. This will generate 4-8 question items that can be asked to the form submitter.

After creating the form, simply click on the "Export" button in the top right corner to share the form. The form can be shared either as HTML, URL, or ConfiForms XML code. Clicking on "Export as HTML" downloads a file containing HTML code that can be integrated into all platforms that support HTML. "Export as URL" provides a URL that can be copied and shared with multiple form submitters. "Export to ConfiForms"

downloads a file containing XML code that can be integrated into a Confluence page using ConfiForms.

## 1.2 Getting Started

To get started with the form builder, let's create a simple form about the Body Mass Index (BMI) survey. For this, we want to ask users about their name, age, weight, and height. We also want that after users enter the weight and height, the corresponding BMI should be calculated and shown to the users. After creating this form, we want to share it via email with multiple users. To accomplish this, follow these steps:



The screenshot shows the 'Form Generator' interface. On the left is a sidebar with a grid of form field types: Text, Date, Number, Name, Phone, Multiple Choice, Checkbox, Address, Single Choice, and Text Box. The main area displays a form generated from an AI prompt: 'I want a form to use it in a Body mass index survey. Make sure to ask weight in KG and height in CM'. The generated form contains five questions: 'What is your name?', 'What is your age?', 'Please enter your weight in KG', 'Please enter your height in CM', and 'Your calculated Body Mass Index(BMI) is:'. Each question has a text input field and a trash icon to its right. A 'Generate' button is located at the top right of the form area, and an 'Export' button is in the top right corner of the entire interface.

Figure 1.4: BMI form created in the form builder

1. To create questions for the survey, we can either use AI or manually create questions by dragging items from the item list.
2. To use AI, simply enter a short form description as shown in the Figure 1.4 and click on the "Generate" button. This will create questions that can be asked in the form. Jump to step 8 to configure these questions. To create questions manually, follow steps 3-7.
3. Create a text question by dragging the "Text" item from the item list and dropping it into the question list.

4. Enter "What is your name?" either directly in the question item or in the "Question Text" property in the property panel.
5. Similarly, drag a "Number" item from the item list and enter "What is your age?" in the question item.
6. Now, drag another two "Number" items and enter "Please enter your weight in KG" and "Please enter your height in CM".
7. Drag out the last "Number" item and enter "Your calculated Body Mass Index (BMI) is:" to show the calculated BMI.
8. Click the settings button of the age question to open the property panel and enter 18 as the minimum value to ensure that the survey participant is an adult.
9. Since we want to calculate BMI using weight and height, open the property panels for the weight and height questions and mark "required" as true.
10. To automatically calculate the BMI, open the property panel for the BMI question and open the calculation box by clicking on "Add a Calculation".
11. Fill out the calculation box as shown in the Figure 1.5 and save it. This will calculate BMI every time a new value is added for weight or height.
12. Finally, we have created our form. Now click on the "Export" button, enter an email address to receive the form responses from the survey participants, and then select "Export as URL".
13. This will provide a URL of a webpage that contains the generated form as shown in the Figure 1.6. Copy the link and share it with survey participants via email.



The screenshot shows a user interface for a survey form. At the top, there is a header bar with the text "What is your name?" and a settings gear icon. Below this is a light gray panel titled "Calculation" with a "SAVE" button in the top right corner. Inside the panel, the text "Value:" is followed by a sequence of input fields: a dropdown menu with a downward arrow, a text input field containing "3. Please enter your heig", another dropdown menu with a downward arrow, a text input field containing "/", a third dropdown menu with a downward arrow, a text input field containing "2. Please enter your weig", a fourth dropdown menu with a downward arrow, and finally a dropdown menu with the text "END". The fourth dropdown menu is currently selected, showing a blue border.

Figure 1.5: Calculation box for BMI question

**What is your name?**

John David

**What is your age?**

20

**Please enter your weight in KG**

87

**Please enter your height in CM**

187

**Your calculated Body Mass Index(BMI) is:**

24.9

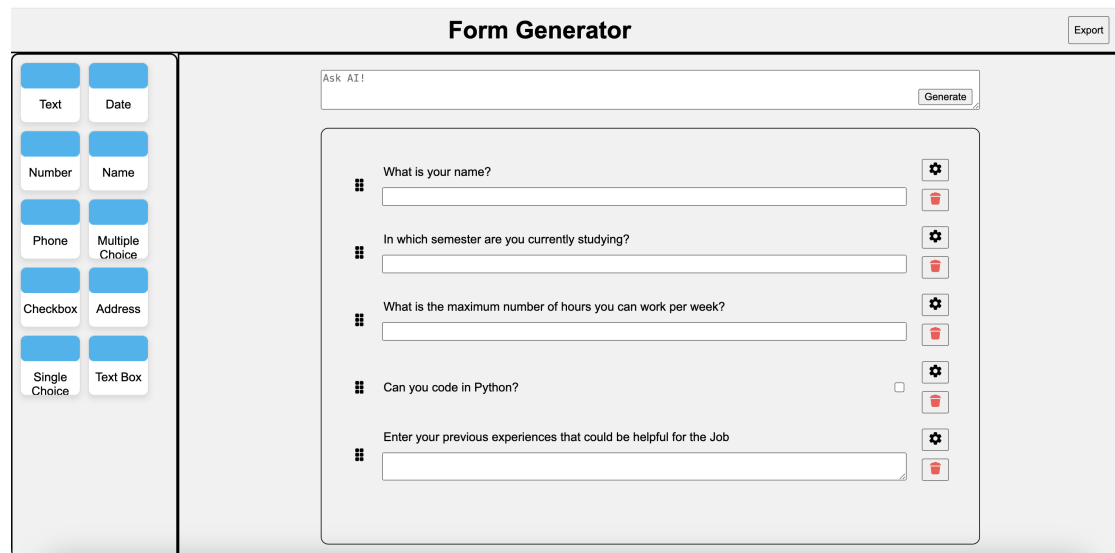
submit

Figure 1.6: BMI form in the shared URL filled by a survey participant

## 2 Case Studies

In this section, two distinct use cases are showcased, each highlighting the diverse applications and capabilities of the form builder platform.

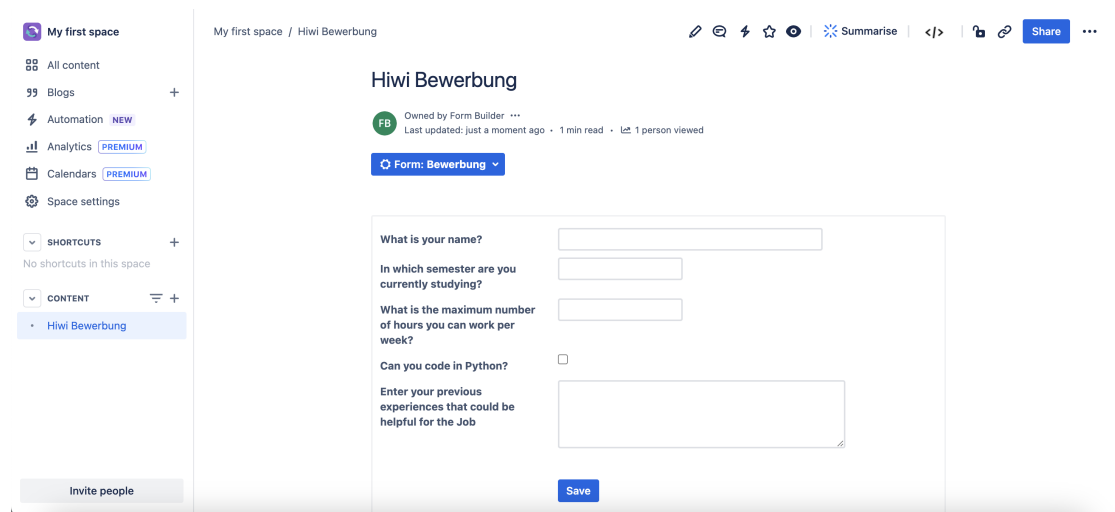
### 2.1 Creating Form to Hire Student Assistants at TUM



The screenshot displays the 'Form Generator' interface. On the left, a sidebar contains a grid of form field types: Text, Date, Number, Name, Phone, Multiple Choice, Checkbox, Address, Single Choice, and Text Box. The main workspace shows a form titled 'Form Generator' with an 'Export' button in the top right. At the top of the workspace is a text input labeled 'Ask AI!' with a 'Generate' button. Below this, five form items are listed, each with a question, a text input field, and a settings icon (gear) and a delete icon (trash). The questions are: 'What is your name?', 'In which semester are you currently studying?', 'What is the maximum number of hours you can work per week?', 'Can you code in Python?', and 'Enter your previous experiences that could be helpful for the Job'.

Figure 2.1: An application form for student assistants created in the form builder. The objective is to create a form to hire new student assistants at TUM and integrate it into Confluence using ConfiForms. Student assistants must be studying in at least the 3rd semester and should have programming knowledge in Python. Additionally, we aim to inquire about the desired number of hours per week, which should be a maximum of 20 hours. Previous experience is also a query. To formulate these questions, users can either drag them from the item list and manually enter the question text or allow AI to generate them by providing a suitable form description. After creating the question items as shown in the Figure 2.1 using either method, additional constraints can be added for some questions mentioned above. For the semester question, the minimum value of 3 can be entered in the property panel.

Similarly, ensuring that the number of hours is less than or equal to 20 can be achieved by specifying it as the maximum value in the property panel. To integrate this form into Confluence, simply click on the "Export" button and select the "Export to ConfiForms" option. This action downloads a file containing XML code that configures the ConfiForms macro and creates a form on a Confluence page. Simply copy this code and paste it inside the Confluence page. The Confluence page can then be accessed by students applying for student assistant jobs, allowing them to submit their responses. The form created in Confluence after pasting the provided XML code for ConfiForms is shown in the Figure 2.2.



The screenshot shows a Confluence page titled "Hiwi Bewerbung" within a space named "My first space". The page is owned by "Form Builder" and was last updated "just a moment ago". It has a "1 min read" and "1 person viewed". A blue button labeled "Form: Bewerbung" is visible. The form itself contains the following questions and input fields:

- "What is your name?" with a text input field.
- "In which semester are you currently studying?" with a text input field.
- "What is the maximum number of hours you can work per week?" with a text input field.
- "Can you code in Python?" with a checkbox.
- "Enter your previous experiences that could be helpful for the Job" with a large text area.

A "Save" button is located at the bottom right of the form. The left sidebar shows the "My first space" navigation menu with options like "All content", "Blogs", "Automation", "Analytics", "Calendars", "Space settings", "SHORTCUTS", and "CONTENT". The "CONTENT" section is expanded, showing "Hiwi Bewerbung".

Figure 2.2: Application form exported to Confluence using ConfiForms



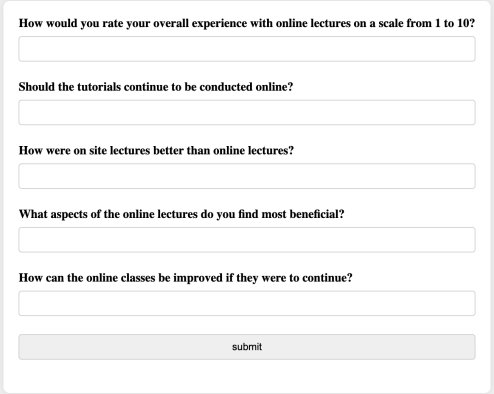
## 2.2 Creating a Survey Form to Analyze Online Classes

The screenshot shows a web interface titled "Form Generator" with an "Export" button in the top right corner. On the left is a sidebar with various form field types: Text, Date, Number, Name, Phone, Multiple Choice, Checkbox, Address, Single Choice, and Text Box. The main area displays a generated form based on a user prompt: "I want a form to ask my students if they are satisfied with online lectures. Do not forget to ask if the tutorials should continue to be online. Don't ask more than 5 questions!". The generated form contains five questions, each with a settings icon (gear) and a delete icon (trash):

- How would you rate your overall experience with online lectures on a scale from 1 to 10?
- Should the tutorials continue to be conducted online?
- How were on site lectures better than online lectures?
- What aspects of the online lectures do you find most beneficial?
- How can the online classes be improved if they were to continue?

Figure 2.3: Online feedback form created by the professor using AI

A professor wants to assess student satisfaction with online lectures and determine whether tutorials associated with the lecture should remain online. Due to time constraints from meetings, the professor opts to use AI to generate the questions efficiently. He inputs: "I want a form to ask my students if they are satisfied with online lectures. Do not forget to ask if the tutorials should continue to be online. Don't ask more than 5 questions!" After clicking the generate button, AI suggests questions for the form as shown in Figure 2.3. After a brief review of the suggested questions, the professor is satisfied and even surprised that the questions suggested were better than he expected and exports the form using a URL. This provides the professor with a webpage URL containing the generated form depicted in Figure 2.4. The professor can easily share the URL on the Moodle page of the course and gather feedback from students. In this manner, the professor creates and shares the form in less than 2 minutes, allowing him to continue with his meetings.



The image shows a web-based feedback form centered on a light gray background. The form is a white rectangle with rounded corners. It contains five text input fields, each preceded by a question. The questions are: 'How would you rate your overall experience with online lectures on a scale from 1 to 10?', 'Should the tutorials continue to be conducted online?', 'How were on site lectures better than online lectures?', 'What aspects of the online lectures do you find most beneficial?', and 'How can the online classes be improved if they were to continue?'. At the bottom of the form is a gray button with the word 'submit' in white text.

How would you rate your overall experience with online lectures on a scale from 1 to 10?

Should the tutorials continue to be conducted online?

How were on site lectures better than online lectures?

What aspects of the online lectures do you find most beneficial?

How can the online classes be improved if they were to continue?

submit

Figure 2.4: Online feedback form shared by the professor via a URL

# Abbreviations

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