Quiz Template:
Using the ‘ask user’ functions

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Overview

- The purpose of this tutorial is to demonstrate how to use a template for quizzes in which the user is prompted to answer questions that require a specific type of input.

- Many of the methods have been provided for you. To enable you to use these methods in any world, they have all been saved to an Alice object that can be imported.

- There are five basic steps to creating your quiz world. But first, understand the format of the quiz.
The format of this quiz:

1) An object, which I refer to as the Instructor, will ask each question

2) Once the question is asked, a dialog box pops up, in which the user puts the answer

3) The correct answer is either a number, text (known as a String) or either yes or no

4) The user’s answer is then compared to the correct answer. It is possible to keep track of the score and allow the user to try again.

5) Once the question has been evaluated, the instructor will repeat these steps for the next questions.
Set Up

- When you build your own quiz world, setting up the objects and camera views is the first step.
- For the sake of this tutorial, a starter world has been provided.
- When you downloaded this tutorial, you should have downloaded the starting world, it is called questionVariableStart.a2w. If not, do so now.
- Save it in a directory that you can find again.
Step One

- Open Alice, and open the world questionStart.a2w.
- First, click on world in the object tree. Click on the methods tab in the details area.
- Click create new method. Name it quiz1method.
- Click on world.my first method. Drag quiz1Method into it.
Set the Camera View

- Drag **camera**, **set point of view** into **quiz1Method**.
- Select Dummy Objects, **quiz1view**. Set duration to 0.

- It is good practice to set the camera position if you will have multiple views in your world.
Import the quiz object

- Click on the **File** Menu
- Select **Import**
- Find `askQuestionVariables.a2c`
- You should have downloaded it with this tutorial, if you didn’t do so
- Click on the import button to add the object to your world.
Where is your object?

- The imported object appears in the object tree

- Remember that it is actually an invisible shape, so you won’t see it in your world screen unless you click on it in the object tree and see the yellow bounding box.

- But we are able to use all of the properties and methods that I’ve written under it.
The quizTemplate

- Click on askQuestionVariables in the object tree
- In the methods tab, click edit beside quizMethodTemplate
- All of the steps for creating your own quiz method are provided here. We’ve already completed Step 1.
- quiz1Method is where we will put all of the instructions for the quiz. It is good practice to set the camera position if you will have multiple views in your world.
- Now, I will walk you through the rest of the steps
Step 2: Setting the Instructor

- Click on the quiz1Method tab
- Click on the properties tab and drag Instructor into your method.
- Select set value, select cow, the entire cow.
The Purpose of the Instructor Variable

- The Instructor explains the correct or incorrect answers. By default, it is set to the camera.
- If at any point during your quiz, you want to change which object is the Instructor, simply drag this property variable into your quiz method again method and set the value to another object.
Step 3: Initialize the score variable

- Drag the **Score** variable into your quiz1Method.
- Set the value to **0**.

- This step is only necessary if you have multiple quiz methods in your world (which all use the same score variable)
- Otherwise, by default the score is set to **0**.
Step 4: Ask questions

- Now, I am going to show you how to ask the different types of questions.
- The types differ based on what type of answer they have.
- Remember, the three types of answers include: number, string, or yes/no.
- They are based on the world level functions found under `ask user`.

![Diagram of ask user functions](image)
Question One: Type Number

- The methods provided under the imported object use these functions. For each question, all you have to do is call one of the methods.
- Click on the methods tab. Drag `askNumber` into your method.
- In the drop down menu, select `default string`.
- In the second drop down menu, select `0`. 
Filling in the parameters

- There are two parameters for each of these ask methods.
- The first parameter is for the question, and the second parameter is for the correct answer.
- Click on default string and type in: How many animals are there in this Alice world?
- Now click on the 0 beside correctAnswer and change it to 3

- Play your world. Restart and see what happens when you get the answer right or wrong.
Question two: Type String

- Now drag `askString` into quiz1Method. Select `default string` and `None` for the parameters.
- Click on default string and type: What is the name of a male chicken?”

- When the answer is type string, there may be a number of variations that are acceptable for the correct answer based on capitalization and abbreviations, etc. So we use a list of Strings to hold the correct answer possibilities.
Create list of Answer Possibilities

- Click on the <None> beside correctAnswerChoices. Select create new list
- Name the list “maleChicken”
- Select type Other, String
- Check the box, make a list
- Add the following items: rooster, Rooster, cock, Cock.

The complete instruction:

```
askQuestionVariables.askString Question = What is the name of a male chicken?  
correctAnswerChoices = world.maleChicken
```
Where is your list?

- The list you just created appears at the world level. (That’s why the parameter says `world.maleChicken`)

- So if you need to modify your list, click on world in the object tree. Click on properties, and you can open your list from there.

- Play your world. Restart to try all of the acceptable variations.
Question Three: type Yes/No

- For question three, click on the methods tab of your imported object and drag `askYesNo` into `quiz1 Method`.
- For the parameters, select `default string`, and select `true`.
- Click on default string and type: Is the frog smaller than the chicken?
- The `correctAnswer` is already set to `true`.

Play your world
Step 5: Score

- At the end of the quiz, if you want to tell the user how many questions they answered correctly, you can have the Instructor say the score.

- Click on quiz1Template. Drag the instruction to the clipboard. Then click on quiz1method and drag it from the clipboard to the end of your Method.

- Play your world.
How to construct the Score Say instruction

- If copying from the clipboard does not work for you, follow these instructions instead.
- Click on properties tab, drag Instructor into your quiz1Method. Select say, hello
- Click on World in the object tree, go to functions. Drag a joined with b on top of hello, select default string.
Construct score say (cont.)

- Drag the function **what as a string** on top of default string. From the drop down, select expressions, select the **score** variable.

- Click on hello and type “You correctly answered: ”. Then, set duration to 2 seconds.

- Play your world.
Ask question with tries

- For the three ask methods you’ve used, the user is told the answer if they get it wrong.
- If you want the user to be able to keep trying to answer, use these methods instead:
  - askNumberWithTries
  - askStringWithTries
  - askYesNoWithTries
- Drag askNumberWithTries into your quiz method and set Question to “What is 104-102?” and the correctAnswer to 2.
Full method

- It may not be necessary to share the score, especially if you use the WithTries methods.
- Here is the full quiz1Method

Remember that you can have multiple quizzes in your world, simply by following these steps to create another quizMethod.
Recap

1. Set up your objects and camera views
2. & 3. Create quiz1Method and set the initial values for Instructor and Score
3. Ask your questions. To know which method to use, decide which answer type and if you want the user to be able to try again or not.
4. Note that you can put numbers in Strings too. For example, suppose the answer could be: seven, 7, Seven, or 7.0. Then you would use askString, even though the answer is technically a number, in order to use the answer possibilities.
5. Tell the user their score, if you want to.
To Do: Add More Animation

- The fun of creating a quiz world in Alice is the animation. Add animation to your quiz1Method, between each question. My final method is on the next slide.

- And remember that you can have multiple quizzes in your world, simply by following these steps to create another quizMethod.
Objects are animated during quiz

```plaintext
objects

- camera
  - set point of view to quiz1View

- askQuestionVariables.Instructor
  - set value to cow

- askQuestionVariables.askNumber
  - question = How many animals are there in this Alice world?
  - correctAnswer = 3

- cow.tailSwish
  - times = 2
  - speed = 3

- askQuestionVariables.Instructor
  - set value to chicken

- askQuestionVariables.askString
  - question = What is the name of the male chicken?
  - correctAnswerChoices = world.maleChicken

- chicken
  - move up
    - 0.5 meters
    - duration = 0.5 seconds

- chicken
  - move down
    - 0.5 meters
    - duration = 0.25 seconds

- askQuestionVariables.Instructor
  - set value to frog

- askQuestionVariables.askYesNo
  - question = Is this frog smaller than the chicken?
  - correctAnswer = true

- frog.foottap

- cow
  - say
    - You correctly answered:
    - joined with
      - askQuestionVariables.Score
      - as a string
    - duration = 2 seconds
```