

The 15th e-ICON World Contest

Preliminary Training - Session 4



Planning a Climate Change Response App - Session 4-

Learning Guide

Learning Objectives:

Today, we will follow the planning process of the "My Resilience Contribution Measurement App," and **learn how to design your own climate change response app by incorporating your unique ideas.**

- 1) Define the attributes for planning your own climate change response app and create a formula for calculation.
- 2) Design the problem-solving algorithm for your climate change response app.
- 3) Design the user interface (UI) for your climate change response app.

Guidelines:

Through this session, you will learn the process of planning an application and discover how to plan your own app to be submitted in the final round. However, the "Resilience Contribution

Measurement App" is merely an example of a climate change response app. You should use the app planning steps learned today as a guide to design your own unique app.


<Explanation Video for Session 4>

영상 링크: <https://youtu.be/ufHTdu8uZ9k>

(Example) My Resilience Contribution Measurement App: "Earth Guardian Energy"

Let us use the 'Earth Guardian Energy' app as an example of a climate change response tool. The app you submit for the final round should focus on **a new climate change-related topic** and **incorporate creative ideas that you develop yourself**.

In other words, "resilience" is one approach to addressing climate change, and this example serves as a reference for how you can narrow down and specify the broader topic of climate change. This app helps users reflect on their daily lives and analyze how much their lifestyle contributes to "resilience". Through this activity, users can see their resilience contribution score and receive visual suggestions for activities based on their current status.

 **(Activity)** Access the example app, "Earth Guardian Energy", which measures your resilience contribution score, and capture the results.

웹페이지 링크: <https://capi.rootsall.net/modeling/7/result/?id=123519>

제출

(Example) Attributes and Formula Used in My Resilience Contribution Measurement App

These are the attributes and formula used in My Resilience Contribution Measurement App.

1. Let us examine the attributes used to measure resilience contribution score in **My Resilience Contribution Measurement App**.

<Attributes>

Climate Change Awareness, Environmental Protection Activities, Public Transportation Usage, Resource

2. The importance (relevance) of the attributes related to resilience contribution score, expressed as a ratio and with weights that sum to 1, is as follows:

Climate Change Awareness	Environmental Protection Activity	Public Transportation Usage	Resource Conservation	Total
10%	20%	30%	40%	100%
0.1	0.2	0.3	0.4	1

3. The formula used to calculate the contribution to resilience in My Resilience Contribution Measurement App, based on the weights, is as follows:


<Resilience Contribute Formula>

$(0.1) \times \text{Climate Change Awareness} + (0.2) \times \text{Environmental Protection Activities} + (0.3) \times \text{Public Transportation Usage} + (0.4) \times \text{Resource Conservation}$

4. The result of the resilience contribution formula is presented in four intervals.

Name of Result (Interval)	Result Interval
Need more efforts	Less than 2 points
Just a bit more effort	Between 2 and 3 points
You're doing great!	Between 3 and 4 points
You're the best!	Greater than 4 points

Feedback for "My Resilience Contribution Measurement App"

 2 **(Activity)** Provide feedback on using the "My Resilience Contribution Measurement App" and suggest areas for improvement.

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제출

Define Attributes for Planning Your Own Climate Change Response app and

Create a Formula


Let's learn how to plan your own climate change response app by using the 'My Resilience Contribution Measurement App' as a reference. Incorporate your own ideas to design your version of the Resilience Contribution Measurement App.

Guidelines:

Through this process, you will learn how to plan and design your own app to be submitted in the final round. However, the 'Resilience Contribution Measurement App' is merely an example of a climate change response app. You should use the planning steps learned today as a guide to design your own unique climate change response app.

Define the Attributes for Measuring Resilience Contribution Score Based on Factors That Influence Resilience

In the previous lesson, we explored the positive and negative factors that influence resilience in response to climate change. Based on these factors, let's define attributes that can measure resilience contribution score in everyday life.

 **(Activity)** Based on the factors that positively or negatively influence resilience, list the activities in your daily life that impact your resilience.


<Example>

<Factors Influencing Resilience - Daily Activities>

1. **Public Transportation Usage** - Walk or use public transportation for short distance.
2. **Restoration of Green Spaces and Wetlands** - Participate in environmental cleanup volunteer activities.

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제출

 **(Activity)** What attributes can be used to measure my resilience contribution score? Let's identify the attributes that can measure resilience contribution score and explain the reasons.

<Example>

<Attributes to Measure 'Resilience Contribution Score' - Reasons>

1. **Public Transportation Usage Frequency:** To calculate resilience contribution, it is important to know how often public transportation is used over the course of a week. The more a person uses public transportation instead of a personal vehicle, the greater their contribution to resilience in response to

climate change.

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제출

Set Measurement Criteria for the Attributes You Have Defined

Let us set measurement criteria for each attribute to calculate the resilience contribution score of the attributes you have selected.

5

(Activity)

Let's define the criteria for each attribute on a 1-5 scale.

<Example>

Attribute 1's Name: Frequency of Public Transportation Usage

<5-point scale - Intervals>

- 5 points:** 5 or more times per week
- 4 points:** 4-5 times per week
- 3 points:** 2-3 times per week
- 2 points:** 1 time per week
- 1 point:** No usage at all

* Attribute 1's name

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* 5-point scale for Attribute 1 - Intervals

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* Attribute 2's name (If none, write 'None')

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* 5-point scale for Attribute 2 - Intervals (If none, write 'None')

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* Attribute 3's name (If none, write 'None')

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* 5-point scale for Attribute 3 - Intervals (If none, write 'None')

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* Attribute 4's name (If none, write 'None')

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[1711] tiptap

* 5-point scale for Attribute 4 - Intervals (If none, write 'None')

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[1744] tiptap


* Attribute 5's name (If none, write 'None')

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* 5-point scale for Attribute 5 - Intervals (If none, write 'None')

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Set Weights for Each Attribute and Create a Formula

 **(Activity)** Set the weights (importance and relevance) for the attributes that will be included in the resilience contribution score calculation formula.

- For each item, divide the importance by percentage and convert the value to a decimal. This value will be the "weight," and scores will be calculated based on these weights.
- The total sum of the percentages for the attributes should equal 100%, and the total sum of the weights should equal 1.

<Example>

Attribute Name - Percentage (%) - Weight

1. Climate Change Awareness - 10% - 0.1
2. Environmental Protection Activities - 20% - 0.2
3. Public Transportation Usage - 30% - 0.3
4. Resource Conservation - 40% - 0.4

* Attribute Name - Percentage (%) - Weight

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[1935] tiptap

제출

(Activity) Explain the reason for setting the weights.

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제출

 **(Activity)** Create your own resilience contribution measurement formula using the weights set above.

<Example>

Formula for Resilience Contribution Score

$$(0.1) \times \text{Climate Change Awareness} + (0.2) \times \text{Environmental Protection Activities} + (0.3) \times \text{Public Transportation Usage} + (0.4) \times \text{Resource Conservation}$$

* Formula for My Resilience Contribution Score

Create Criteria Based on the Results of My Resilience Contribution Measurement Formula

Let us set the criteria based on the outcome of My Resilience Contribution Measurement Formula.

 **(Activity)** Set the criteria based on the results of the formula.

<Example>

Evaluation - Criteria (Range of Results)

Need more efforts - Less than 2 points

Just a bit more effort - Between 2 and 3 points

You're doing great! - Between 3 and 4 points

You're the best! - Greater than 4 points

* Evaluation - Criteria (Range of Results)


Design the Problem-Solving Algorithm for My Climate Change Response App

Let us learn how to plan your own climate change response app by referring My Resilience Contribution Measurement App. Incorporate your own ideas to design your version of the Resilience Contribution Measurement App.

Guidelines:

Through this process, you will learn how to plan and design your own app to be submitted in the final round. However, the 'Resilience Contribution Measurement App' is merely an example of a climate change response app. You should use the planning steps learned today as a guide to design your own unique climate change response app.

Define the Problem-Solving Process for My Resilience Contribution Measurement App (in Natural Language)

 **(Activity)** Write the problem-solving process for my Resilience Contribution Measurement App in natural language.

<Example>

Problem-solving process for My Resilience Contribution Measurement App in natural language:

1. The user selects their answers (scores) based on the attribute questions.
2. The data entered by the user is processed using the formula.

Resilience Contribution Score Formula:

$(0.1) \times \text{Climate Change Awareness} + (0.2) \times \text{Environmental Protection Activities} + (0.3) \times \text{Public Transportation Usage} + (0.4) \times \text{Resource Conservation}$

Result Categories:

- * Need more efforts: Below 2 points
- * Just a bit more effort: Between 2 and 3 points
- * You're doing great!: Between 3 and 4 points
- * You are the best!: Greater than 4 points

3. When the user clicks the "View Results" button, detailed images based on the results are displayed.

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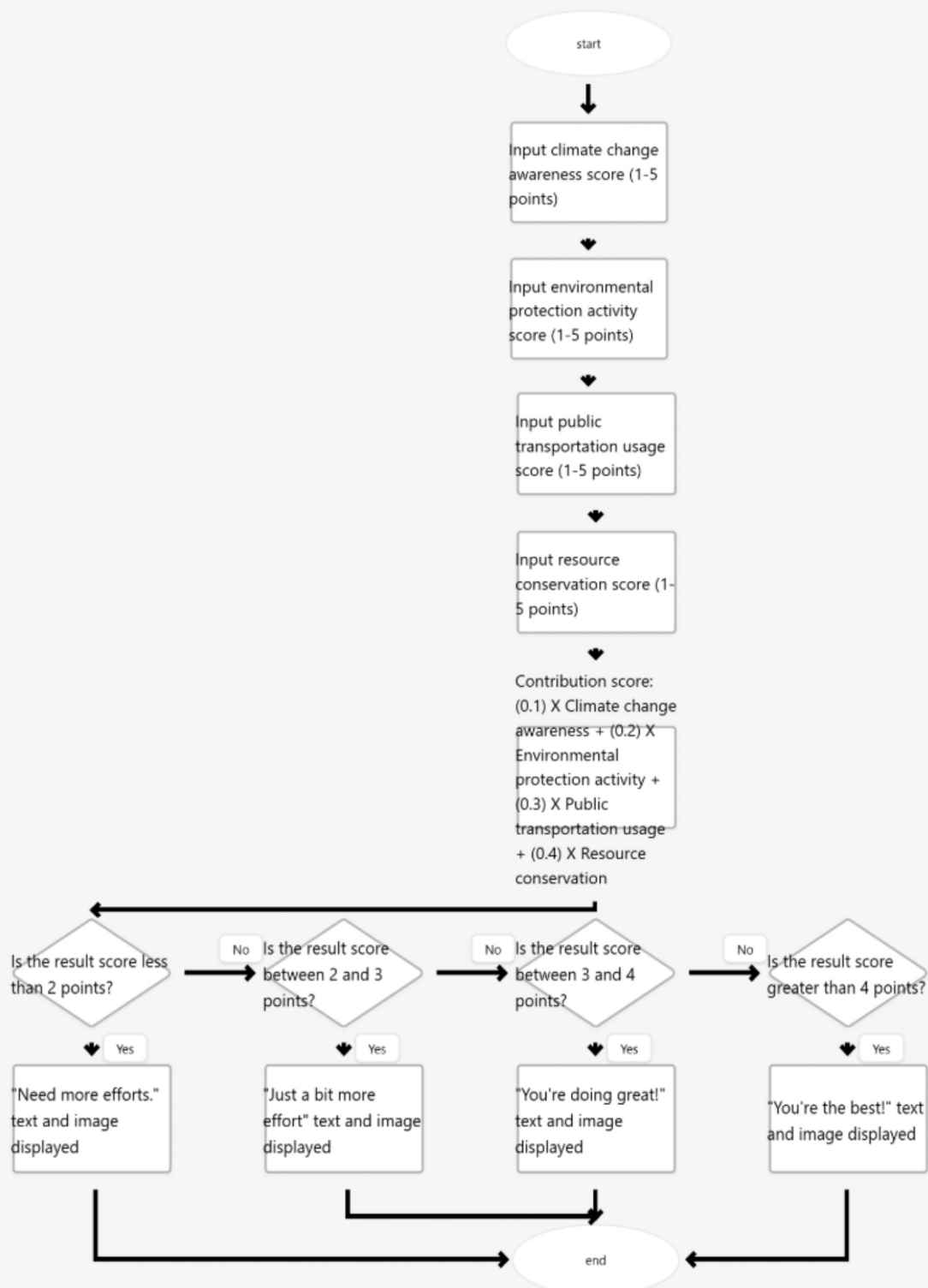
In the next activity, let's represent the problem-solving process as a **flowchart**.

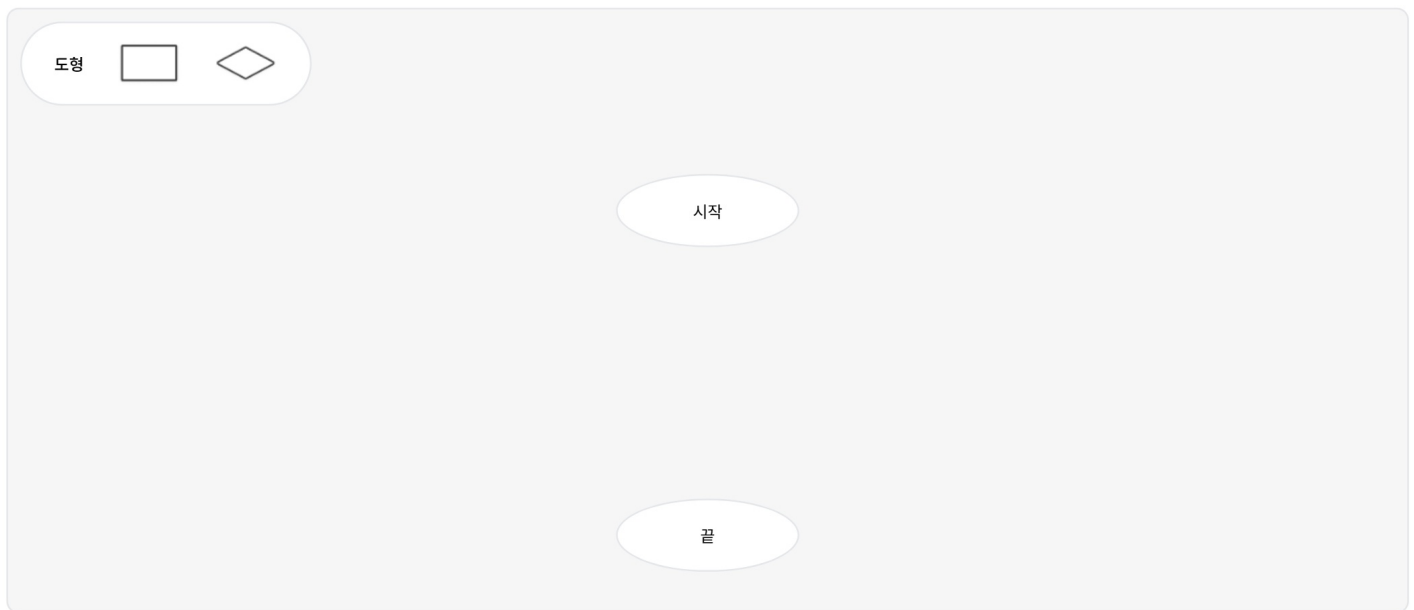
Define the Problem-Solving Process for My Resilience Contribution Measurement App (Flowchart)

(Activity) Represent the problem-solving process of My Resilience Contribution Measurement App as a flowchart.

<Example>

When representing the problem-solving process of my personalized resilience contribution measurement app in a flowchart






Design the UI (Screens) for My Climate Change Response App

Let us learn how to plan your own climate change response app by using the 'My Resilience Contribution Measurement App' as a reference. Incorporate your own ideas to design your version of the Resilience Contribution Measurement App.

Guidelines:

Through this process, you will learn how to plan and design your own app to be submitted in the final round. However, the 'Resilience Contribution Measurement App' is merely an example of a climate change response app. You should use the planning steps learned today as a guide to design your own unique climate change response app.

Write the Purpose of Development for My Resilience Contribution Measurement App

 **(Activity)** Describe the Resilience Contribution Measurement App you want to create, and organize the purpose (reasons) for its development. Then, explain the value (advantages) of my Resilience Contribution App.

1) Name your Resilience Contribution Measurement App and describe the app.

* App Name

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제출

Description

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2) Explain the purpose of the development.

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3) Explain the value (advantages) of your Resilience Contribution Measurement App.

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제출

Identify the Attributes for the Screen Design of My Resilience Contribution Measurement App

 12 (Activity) Identify the attributes for designing the screen (UI) of my Resilience Contribution Measurement App.

<Example>

Attributes for My Resilience Contribution App Reasons

1) **Frequency of Public Transportation Usage:** To calculate resilience contribution score, it is necessary to know how often public transportation is used during the week, so users can make a selection.

Attributes (Keywords) - Reason

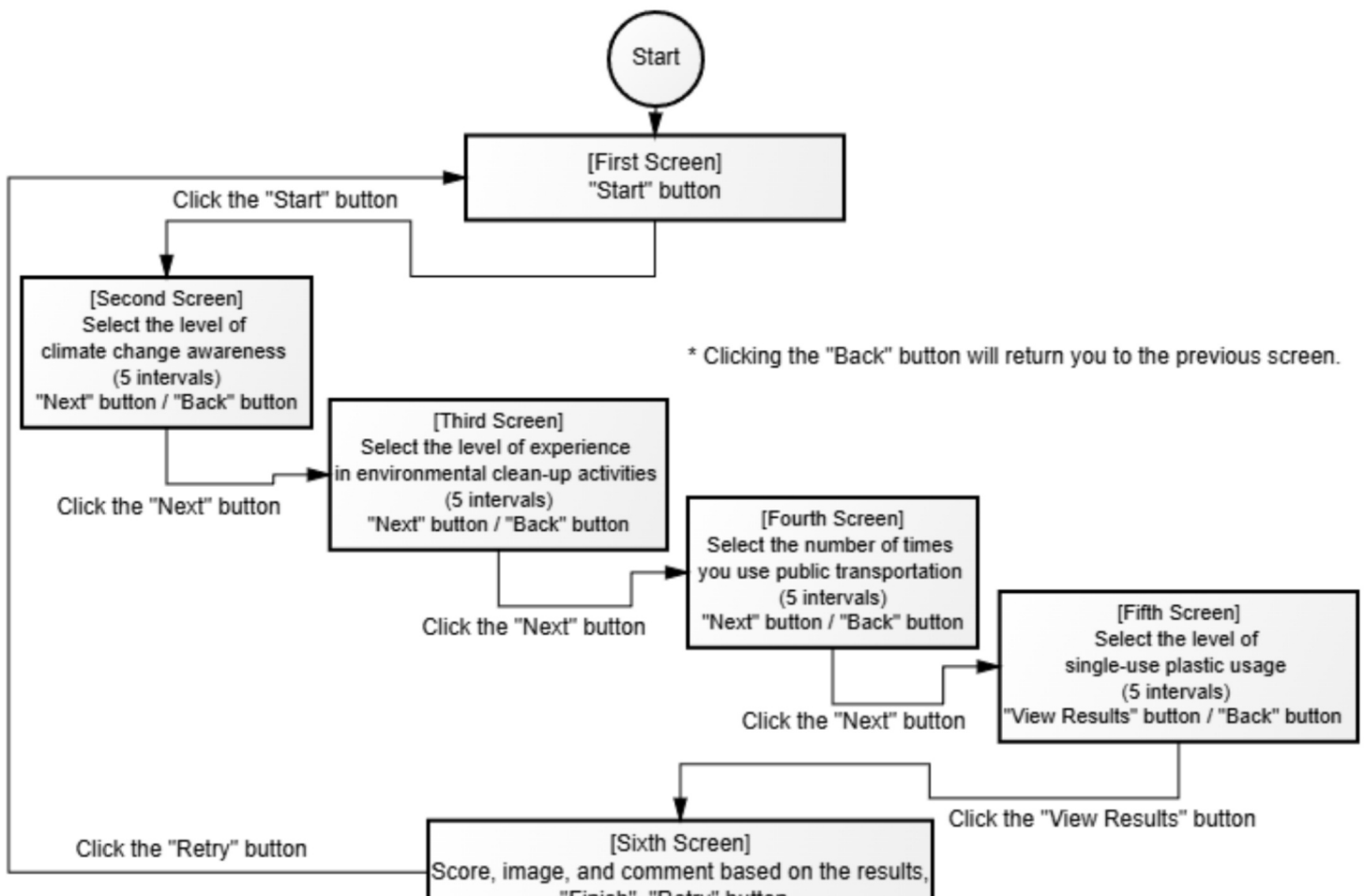
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제출

Design the Overall Screen (UI) Flow and Events

(Activity) Represent the overall screen (UI) flow and events of the Resilience Contribution Measurement App, based on the user's app usage flow. Use a flowchart and text with the image tool.

<Example>





ROOTS all

클릭하면 나오는 상단 첫 메뉴
📌 “이미지 편집하기”를 사용하면
도형과 이미지를 편집 추가 할 수 있습니다.

When you click the screen, you can edit
shapes and images through the 📌 'Edit Image'
option that appears at the top.

제출


Design the Detailed Screen (UI)

🕒 14 (Activity) Design the detailed screens (UI) for the Resilience Contribution Measurement App you want to create. Design as many screens as needed based on the number of screens in your app.

If there is not enough spaces in the tool, you can combine multiple screens into one image.

<Example>

Am I contributing to resilience,
the ability to respond
to climate change?



Clean Earth Image

← Back

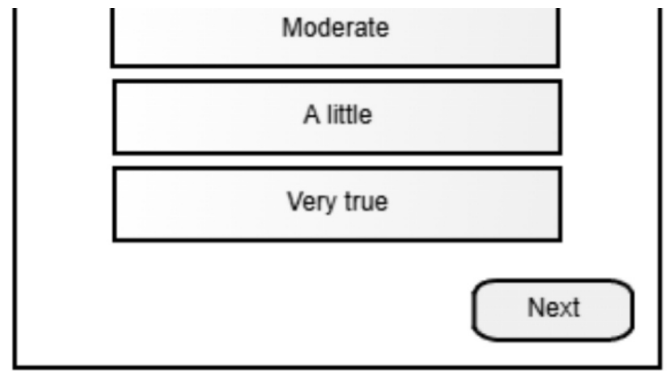
Q. I am aware that climate change
is occurring on Earth
and fully understand the severity of its impacts.

Not at all

No



First screen



Second screen

Design the first screen (UI)



클릭하면 나오는 상단 첫 메뉴
 ✎ "이미지 편집하기"를 사용하면
 도형과 이미지를 편집 추가 할 수 있습니다.


When you click the screen, you can edit
 shapes and images through the ✎ 'Edit Image'
 option that appears at the top.


제출

Design the second screen (UI).

(If there is no second screen, click 'Edit Image' and type 'None,' then save it.)



클릭하면 나오는 상단 첫 메뉴
 "이미지 편집하기"를 사용하면
도형과 이미지를 편집 추가 할 수 있습니다.


When you click the screen, you can edit
shapes and images through the  'Edit Image'
option that appears at the top.


제출

*Design the third screen (UI).

(If there is no third screen, click 'Edit Image' and type 'None,' then save it.)



클릭하면 나오는 상단 첫 메뉴
 "이미지 편집하기"를 사용하면
도형과 이미지를 편집 추가 할 수 있습니다.


When you click the screen, you can edit
shapes and images through the  'Edit Image'
option that appears at the top.


제출

*Design the fourth screen (UI).

(If there is no fourth screen, click 'Edit Image' and type 'None,' then save it.)



클릭하면 나오는 상단 첫 메뉴
 “이미지 편집하기”를 사용하면
도형과 이미지를 편집 추가 할 수 있습니다.


When you click the screen, you can edit
shapes and images through the  'Edit Image'
option that appears at the top.


제출

*Design the fifth screen (UI).

(If there is no fifth screen, click 'Edit Image' and type 'None,' then save it.)



클릭하면 나오는 상단 첫 메뉴
 “이미지 편집하기”를 사용하면
도형과 이미지를 편집 추가 할 수 있습니다.

When you click the screen, you can edit
shapes and images through the  'Edit Image'
option that appears at the top.

