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The Design of Interactive Listening Quiz for Students using Scratch

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Abstract. *Scratch is a visual programming platform that allows people without advanced programming knowledge to create interactive projects such as games, animations, and quizzes. The purpose of this research is to create an interactive listening quiz design for university students using the scratch website. The method in this research is using SDLC with waterfall model. The results of this study was the design of interactive listening quizzes by applying the SDLC-Waterfall model by involving five stages, namely 1) requirement (Planning), 2) design (design), 3) Implementation (implementation), 4) Verification (operation), and 5) Maintenance (maintenance). The conclusion of this study is that there were five stages in designing interactive listening quizzes for students using the scratch website.*

Keywords: *Interactive quiz, university students, Listening, Scratch*

1. INTRODUCTION

Scratch website is a programming application creating programme with image blocks (Hardiansyah et al., 2023). Scratch is a programming language that is designed to be easy, allowing users to simply move graphics (Wulandari et al., 2021). Scratch is a computer programming language that is used to develop teaching materials (Jannah et al., 2021).

Scratch's users can create various interactive projects, such as animations, games, and easy-to-use and fun interface stories, which makes the learning process more enjoyable and effective (Jannatuzzahra et al., 2024). Scratch is the right choice as a first step in learning programming because its projects are diverse, concrete, and contextual, based on the user's computational thinking abilities (Kusumawati and Lestari, 2024). The Massachusetts Institute of Technology (MIT) developed a Scratch game project that showed if games can help users become more logical and have better problems understanding (Muharram and Fajrin, 2021).

University students is one of scratch's users. They are supposed to be more creativite because they are part in supporting the university education system (Papilaya and Huliselan, 2016; Munthe and Lase, 2022). In the university, students are motivated or encouraged to take part in academic activities to achieve academic goals (Masni, 2017).They are considered to have a high level of intelligence, critical thinking skills, and readiness to plan actions (Hulukati and Djibran, 2018). Students must have the ability to learn and complete assignments

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independently (Amini et al., 2020). In the digital era, students play an important role in overcoming challenges and taking advantage of opportunities (Husnaini and Madhani, 2024).

One of the skills that students need to master is listening. Listening is the process of actively understanding, analyzing, and evaluating the contents of the message or information delivered verbally (Hasriani, 2023). Listening is the activity to understand, analyze, and interpret messages of the verbal symbols carefully, so that they can capture the information and meaning conveyed through the speaker's verbal communication (Tarigan in Fahik, 2023). Listening can avoid misunderstandings and improve the quality of relationships with others (Hairiana et al., 2023).

Listening has specific and general purposes. For the specific purposes, listening is used to obtain information, understand the content, and capture the meaning of verbal communication delivered by the speaker. For general purpose, listening's purposes depends on the aspect to be emphasized (Jatiyasa, 2012). Listening has the purpose of obtaining information, understanding the content, and meaning of oral communication (Nurhayani, 2017). Listening is also a process of understanding the content and meaning of the message delivered by the speaker (Taufina in Rahmayani et al., 2023).

Interactive quiz is a learning method that allows participation to interact directly with the material presented (Anam and Tijan, 2022). Interactive quiz is presented on a website or using technology. It lets participants to answer questions directly. So that engagemant and more enjoyable experience can be created (Paramita et al., 2023). The interactive quiz can also be used in various fields, from education, training, to entertainment media (Wulur et al., 2023).

Interactivity is one of the characteristic in interactive quizzez. It lets participants to directly interact with the material, for example by selecting answers or providing input through multiple choice, fill-in-the-blank, or other formats (Nadhirin and Resa, 2024). Interactive quiz provides immediate feedback, allowing participants to know whether their answers are correct or incorrect. Besides it also integrates multimedia elements, such as images, sound, and text, to enhance the participant experiences (Imansyah et al., 2024). Interactive quiz is very flexible. It can be accessed anytime and anywhere. It also provides convenience for users who adopt gamification. They can add game aspects such as points, levels, or time limits to encourage user engagement (Syuhada et al., 2024).

2. METHODS

This reasearch was a developmental reasearch using a Scratch-based learning platform. This research uses the SDLC-waterfall model method. In systems and software engineering, SDLC (Systems Development Life Cycle) is the process of creating, changing, modeling, and methodology used to a system developement (Pricillia, 2021). The SDLC methodology has various types of development models, including the prototype model, agile model, RAD model, fountain model, RUD model, v-model, scrum model, waterfall model, spiral model, UP model, iterative model, big bang model, and extreme programming model (Irawan et al., 2022). After studying the various models of SDLC methodology, the researcher chose the Waterfall model because of its structured process flow, including planning, designing, implementating, operating, and maintaining. Those are considered very appropriate for the development of Interactive Listening Quiz Design using the Scratch Website for University Students.

This research used Waterfall model. In the process of building software, the waterfall model is a classic dynamic model (Munthe, 2017). The steps are Requirement (Planning), Design (design), Implementation (implementation), Verification (operation), and Maintenance (maintenance). The following figures are the steps of Waterfall model.

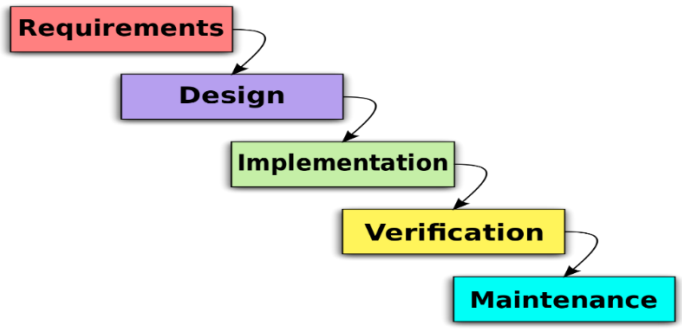


Figure 1. Waterfall Method 1

Source: (Majapahit Teknologi, 2022) 1

In this model, some structured stages are combined in the system development process. The purpose of the model is to create an interactive listening quiz that is ready to be used by users. In implementing this model, designers must follow the following steps.

1) *Requirement*

   At this stage, identification is carried out to find out the components needed to build the system, such as hardware specifications, software, books, databases, and other components (Pangestu et al., 2012). The researcher plans all the requirements. It is

needed to design an Interactive Listening Quiz for University Students Using Scartch Website.

2) Design

At this stage, proper preparation has been made. The system design is changed after going through the analysis process (Tiauw et al., 2024). This stage is also known as the blueprint stage, in which prototypes such as designs, patterns, components, and others are made. It is the stage to design the quiz

3) *Implementation*

The implementation is a continuation of the design. The initial system is made in a small program form called unit (Chandra et al., 2020). At this stage, researcher tests of each unit. The goal is to ensure that its functions run properly before being combined into a larger system.

4) Verification

In verification stage, the system is verified and tested to ensure whether some or all of the system meets the established requirements or not (Ardiansyah, 2020). At this stage, researcher does the experiments or simulations on the progress. The purpose of this stage is to find out that the progress is in accordance with the plan, functioning properly, and ready to proceed to the next stage.

5) *Maintenance*

The final stage of the waterfall method is maintenance. It is the process of maintaining, caring for, or repairing the system to ensure that the system continues to operate optimally and in a good condition (Vialin et al., 2024). At this stage, researcher/designer does evaluation, improvement, and monitor on the system performance. The purpose of this final stage is to ensure efficiency and sustainability of functionality.

3. RESULTS

In this part, the procedures on creating an Interactive Listening Quiz Design for University Students Using Scartch Website are described. It used SDLC Methodology with the Waterfall model. The following are the steps to produce an Interactive Listening Quiz Design.

Requirement

The result of this program was an interactive listening quiz that can be accessed online. Through this interactive listening quiz, students can learn listening skills independently from the website. Students can learn about Procedural Text Stories, News Text Stories, Explanatory Text Stories, Narrative Text Stories, and Biographical Text Stories on the website. Besides,

students can also find out the strengths and weaknesses of their own listening process by looking at the automatic assessment feature through direct feedback. Those were the part designed in this study.

Design

Design is a creative process that involves the designer's ability to design something, whether in the form of an object, system, or other things (Anindita and Riyanti, 2016). It is a creative process to design something useful and produce creativity that will later be useful for others. Figure 2. is the flowcharts of interactive listening quiz design for students in using the scratch website,

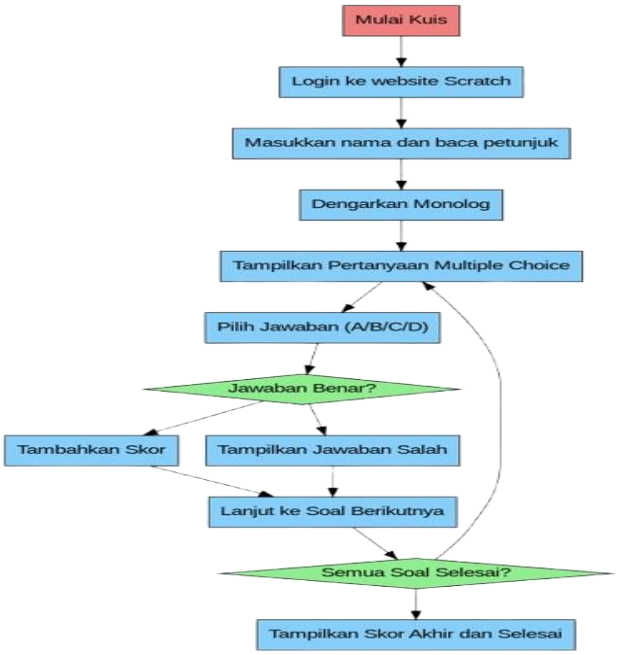
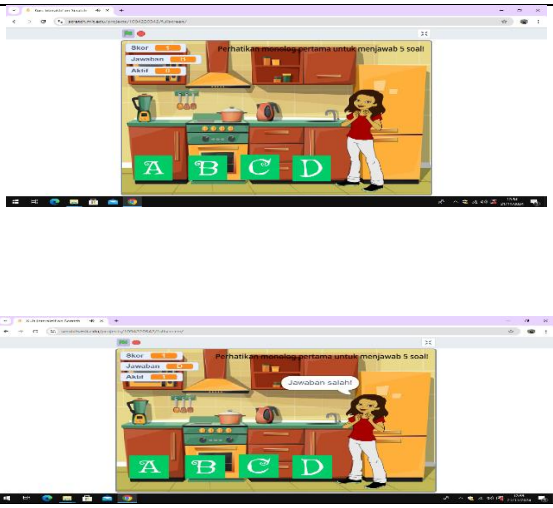


Figure 2. Quiz Flowchart 1

After knowing the flowchart figure of the design, a storyboard was also created to develop an interactive listening quiz. The following was a storyboard designed to explain the simple outline related to the quiz.

Table 1. Storyboard Designed To Explain The Simple Outline Related To The Quiz

Board	Description
First Monologue	Instructions on the monologue contain how to answer the quiz. Users are required to listen to the quiz, starting from the text story and five questions in one monologue. Users can choose the available multiple choices, A, B, C, and D. 1) In the first picture, the user answers the quiz correctly. The user will automatically

	continue to the next question and the score will increase, while, 2) In the second picture, the user gives the wrong answer. The score will remain the same or not increase. The multiple choice will be red. The character on the quiz will say that the answer is wrong! And continue to the next question.

Implementation

Implementation is a process of planning of a concept, policy, or idea into real action. It aims to achieve the initial plan in a structured and systematic manner (Rosad, 2019). Based on the explanation, implementation is the action of a plan to achieve goals in a real, structured, and systematic manner. The following was the implementation process of an interactive listening quiz for students on the scratch website, starting from designing backdrops.

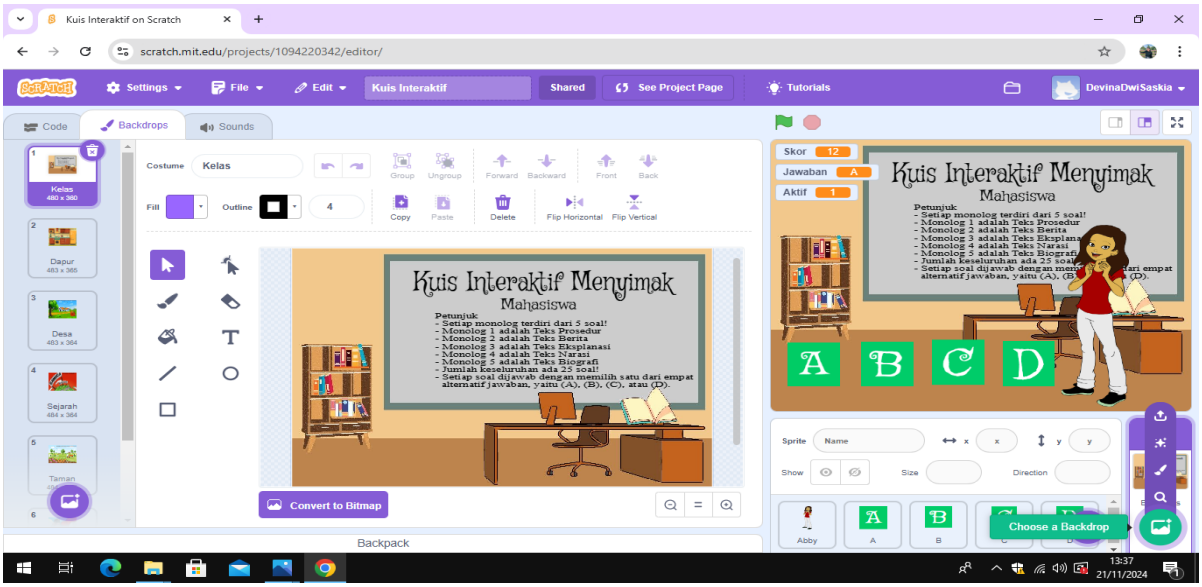


Figure 3. Backdrops Design 1

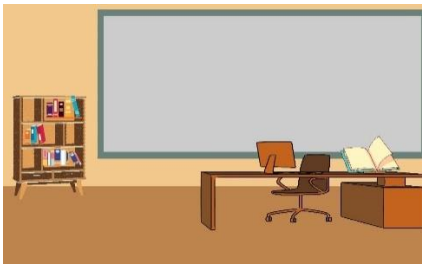


Figure 4. *classroom 1*
Source:(Faridhaniem, 2021) 1

Figure 5. *Kitchen 1*
Source: (VectorPocket, 2018) 1

Figure 6. *village 1*
Source: (Ahmad, S, 2017) 1

Figure 7. *History 1*
Source: (Aprilian, 2021) 1

Figure 8. *Park 1*
Source: (Denayunebgt, 2021) 1

Figure 9. *Bapak Prabowo 1*
Source: (Pamuji, E, 2024 1

To Create the backdrop such in figure 3, chooses "*choose a Backdrop*", selects "*upload backdrops*". Then six images, from the internet, are selected to be part of quiz. In figure 4, the Class Name is given; the designer provides the Quiz Title and instructions. In figure 5, the Kitchen Name is given, in figure 6, the Village Name is given, in figure image 7, the History Name is given, in figure 8, the Park Name is given, in figure 9, the Mr. Prabowo Name is given, and provides information regarding the order of the monologue. Naming aims to to design the quiz easier. In designing backdrops click "clicking convert to Bitmap", choose "select" then drag according to the size of the backdrops. While in the step of designing text, select "text" then select "*font sans serif"* and write the sentence you want to display, then click "select" to move the text. Next, the designer designs the character of the interactive listening quiz.

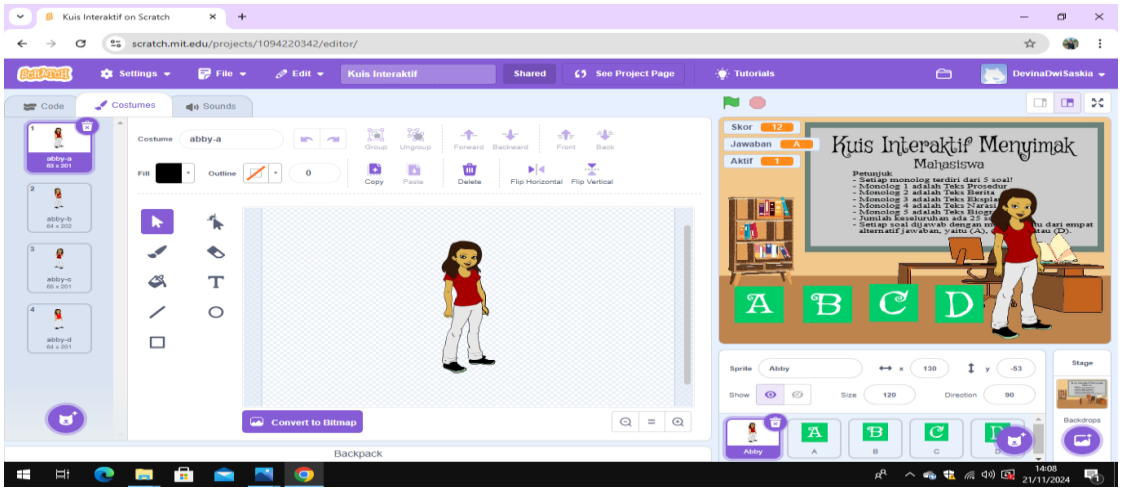


Figure 10. Desain karakter Abby 1

In figure 10, in creating the characters,chooses “sprite choose a Sprite” then chooses Abby. For Abby’s Character, the designer changes the costume to red and white, black shoes, and brown hair. The designer uses three Abby characters named Abby-a and Abby-c. The steps to design the character of Abby are by selecting “select”, “fill”, click on the choosen character. Next, the multiple choices are designed for the quiz.

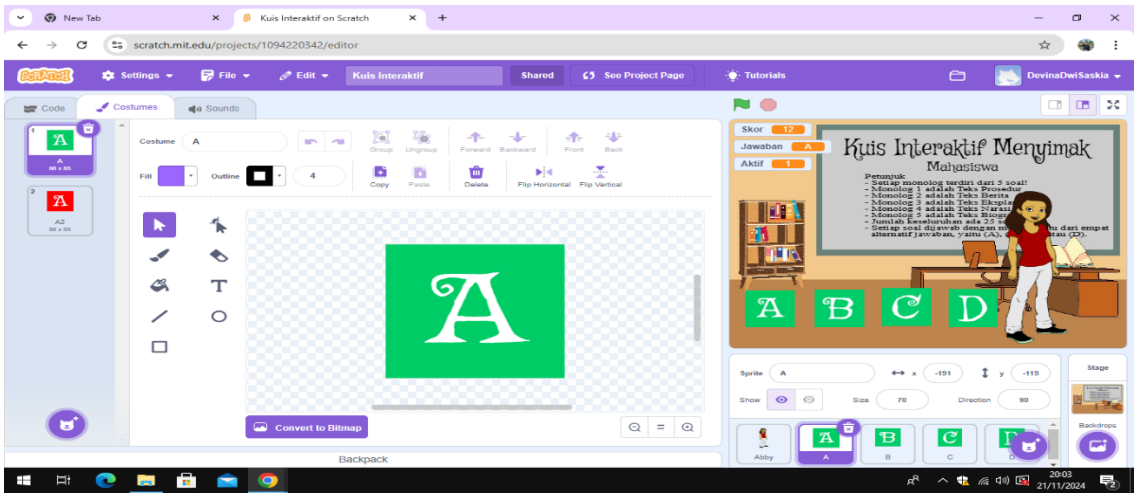


Figure 11. Multiple choice Design 1

In creating multiple choices, in Figure 11, select “choose a Sprite”, then select “paint”, choose “rectangle” until it forms a square. The second step selects “*text font Curly”* with a size of 86 x 85 and “fill” white color. The steps are also applied to sprites B, C and D. The next is the implementation process using Scratch website for this quiz.

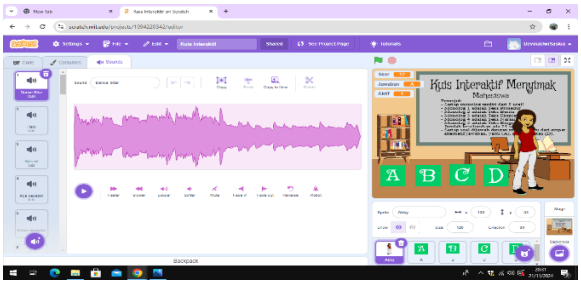


Figure 12. *Sounds 1*

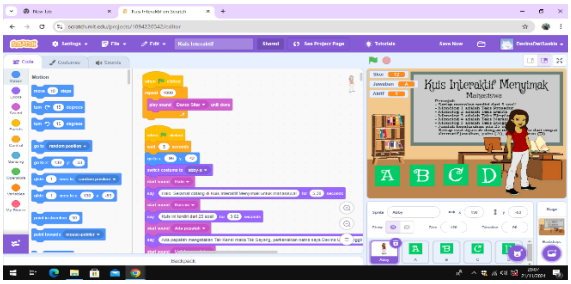


Figure 13. *Coding monolog quiz 1*

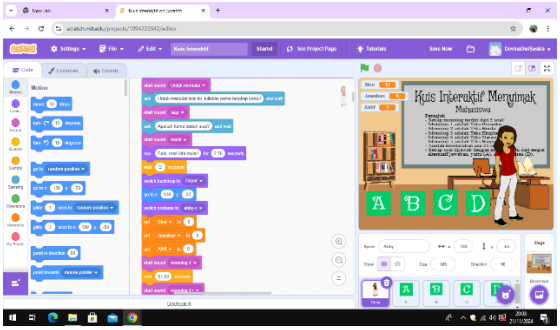


Figure 14. *Coding monolog quiz 1 1*

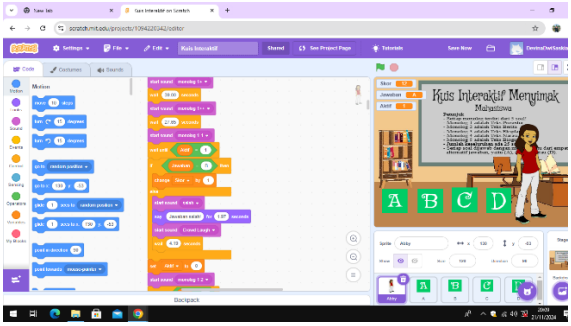


Figure 15. *Coding monolog quiz 1 1*

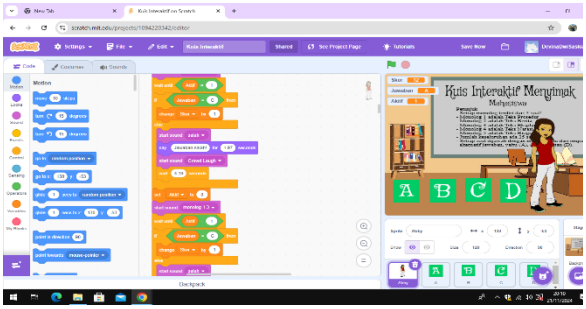


Figure 16. *Coding monolog quiz 1 1*

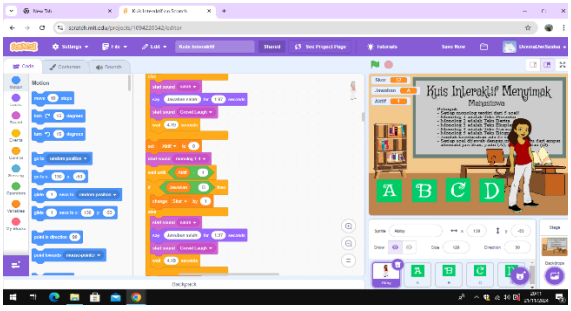


Figure 17. *Coding monolog quiz 1 1*

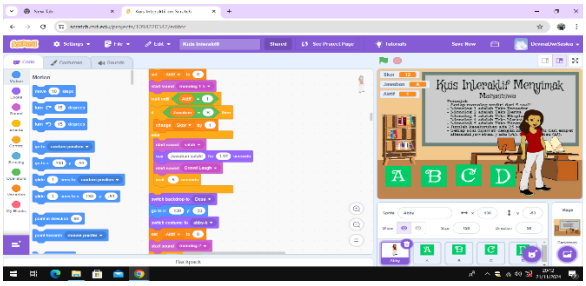


Figure 18. *Coding monolog quiz 1 1*

In figure 12 the designer is on the "Abby sprite". Before the coding process, the recorded voices on the websitettsfree.com are download. To enter sounds, there are some steps that should be followed to provide sound for the quiz. First click "*sounds choose a sounds",* select "upload sound". In the first coding, in figure 13, the designer enters "code", then "events", select "when the green flag clicked", click "control", selects "repeat 1000", then

choose "*sounds choose a sound* "and selects "dance sitar" "slower", returns to "code" selects "sound" then selects "play sound dance sitar until done".

In the first coding, enter "code", then "events" select "when the green flag clicked", click "control", select "wait with 5 seconds", choose "motion", select "go to x: -96 y: -42". Next go to "looks", select "switch costume to abby-a", enter "sounds", select "start sound". Then go to "looks", select "say for seconds". It aims to provide an introductory greeting. Next go to "sensing", select "ask what's your name? And wait", then "sound", click "start sound", go to "control", select "wait second". Then go to "looks switch backdrop to" kitchen, then "motion", select "go to: 130 y: -53", go to "looks switch custom to" Abby-c, choose "variables", click "make avariable", then write score, answer, and active, then select "set score to 0", set answer to 0, set active to 0. After that click "sound", select "start sound monologue 1, then "events", select "wait seconds", repeat until the first monologue story is finished.

Next go to "sound", select "start sound first monologue question", then go to control, select "wait until", then "operators" select "=", go to "variables", enter "active". Then go to "control", select "if" then "else", in the "if" section, go to "operators", select "=", and enter "variables" answer and select "changeskorby". While in "else" section, go to "sound", click "start sound", choose incorrect, go to "looks say", "the answer is wrong! For seconds", then go to "sounds choose a sound", select "crowd laugh", then go to "control", click "wait second". Then for the second to fifth questions, the first monologue coding method for the first question is duplicated starting from the active set to 0. Afterward, it is how the quiz designing for the second monologue.

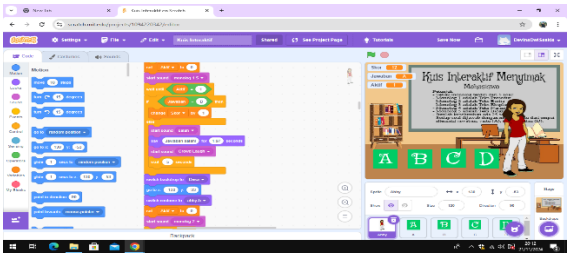


Figure 19. *(2) Coding monolog quiz 2 1*

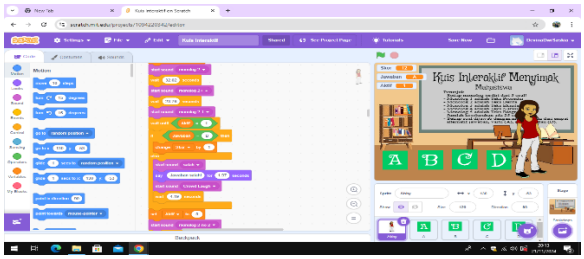


Figure 20. *Coding monolog quiz 2 1*

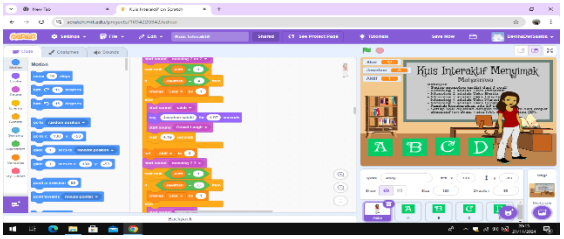


Figure 21. *Coding monolog quiz 2 1*

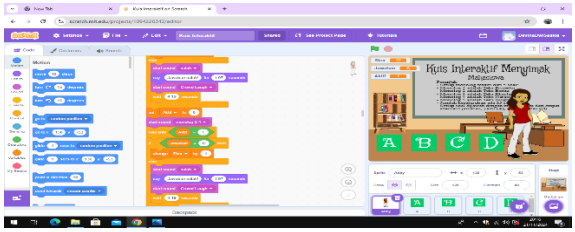


Figure 22. *Coding monolog quiz 2 1*

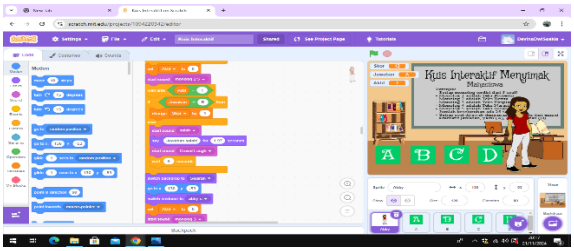


Figure 23. *Coding monolog quiz 2 1*

In the second monologue, in figire 19, the costume and the backdrop are changed.The first way is to go to" looks", select "switchbackdrop" to "village", then to "motion", select "goto x to y", then go to "looks", select "switch costume" to" abby-b", then go to "variables set" active to 0. Next is for creating the sound. First, go to "sound", select "start sound monologue 2", then go to "events" select "wait seconds", repeat until the second monologue story is finished. Then go to "sound", select "start sound" second monologue question, then go to control, select "wait until", then "operators" select "=", go to "variables", enter "active". Then go to "control", select "if" then "else", in the "if" section, go to "operators", select "=", and enter "variables" answer and select "change skor by". While in "else" section, go to "sound", click "start sound", choose incorrect, go to "looks say", "the answer is wrong! For seconds", then go to "sounds choose a sound", select "crowd laugh", then go to "control", click "wait second". Then for the second to fifth questions, the second monologue coding method for the first question is duplicated starting from the active set to 0. Next, it is how the quiz designing for the third monologue.

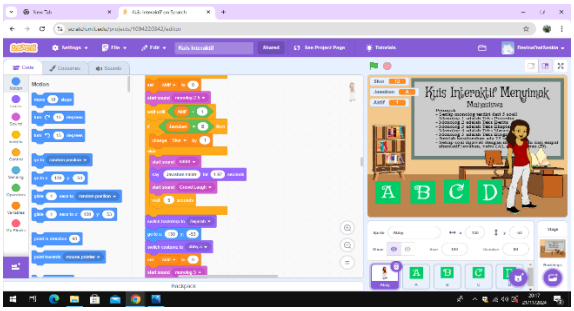


Figure 24. *(3) Coding monolog quiz 3 1*

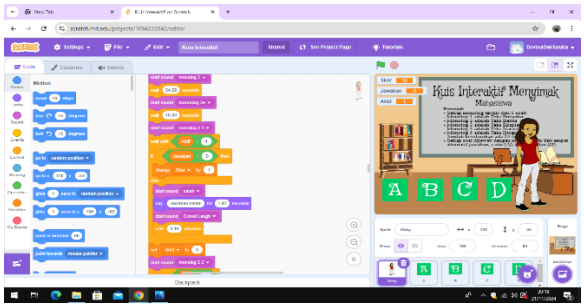


Figure 25. *Coding monolog quiz 3 1*

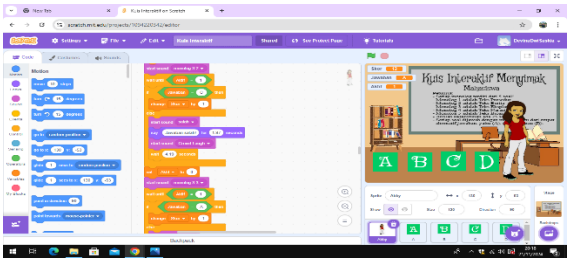


Figure 26. *Coding monolog quiz 3 1*

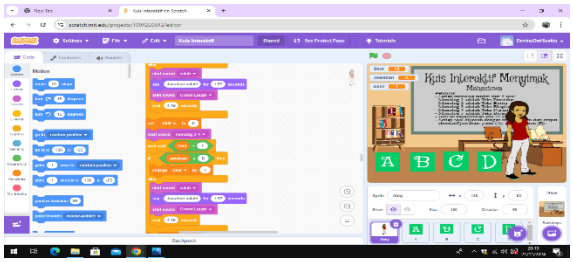


Figure 27. *Coding monolog quiz 3 1*

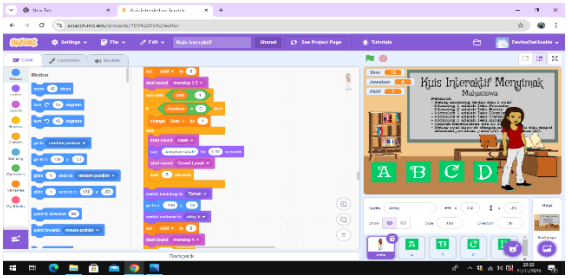


Figure 28. *Coding monolog quiz 3 1*

In the third monologue, in figure 24, the costume and the backdrop are changed.The first way is to go to" looks", select "switch backdrop" to "history", then to "motion", select "goto x to y", go to "looks", select "switch costume" to" abby-c", then go to "variables set" active to 0. Next is for creating the sound. First, go to "sound", select "start sound monologue 3", then go to "events" select "wait seconds", repeat until the second monologue story is finished. Then go to "sound", select "start sound" second monologue question, then go to control, select "wait until", then "operators" select "=", go to "variables", enter "active". Then go to "control", select "if" then "else", in the "if" section, go to "operators", select "=", and enter "variables" answer and select "change skor by". While in "else" section, go to "sound", click "start sound", choose incorrect, go to "looks say", "the answer is wrong! For seconds", then go to "sounds choose a sound", select "crowd laugh", then go to "control", click "wait second". Then for the second to fifth questions, the third monologue coding method for the first question is duplicated starting from the active set to 0. Next, it is how the quiz designing for the fourth monologue.

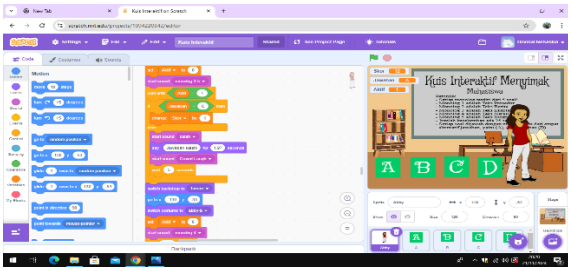


Figure 29. *(4)Coding monolog quiz 4 1*

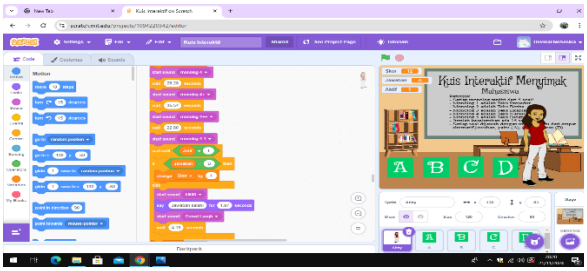


Figure 30. *Coding monolog quiz 4 1*

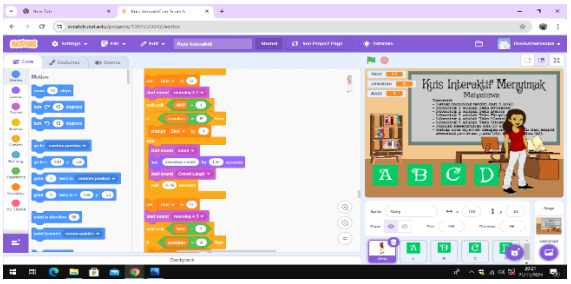


Figure 31. *Coding monolog quiz 4 1*

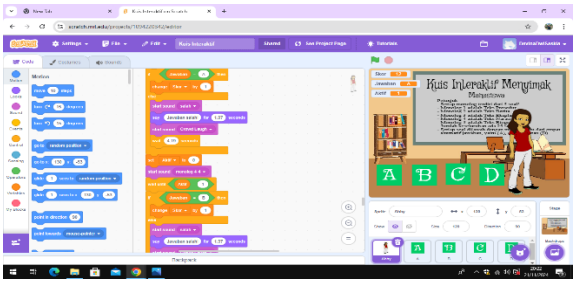


Figure 32. *Coding monolog quiz 4 1*

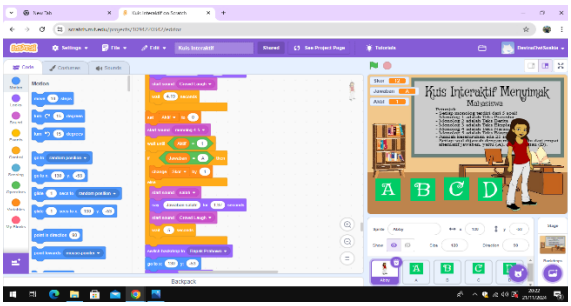


Figure 33. *Coding monolog quiz 4 1*

In the fourth monologue, in figure 29, the costume and the backdrop are changed. The first way is to go to" looks", select "switch backdrop" to "park", then to "motion", select "goto x to y", go to "looks", select "switch costume" to" abby-b", then go to "variables set" active to 0. Next is for creating the sound. First, go to "sound", select "start sound monologue 4", then go to "events" select "wait seconds", repeat until the second monologue story is finished. Then go to "sound", select "start sound" fourth monologue question, then go to control, select "wait until", then "operators" select "=", go to "variables", enter "active". Then go to "control", select "if" then "else", in the "if" section, go to "operators", select "=", and enter "variables" answer and select "change skor by". While in "else" section, go to "sound", click "start sound", choose incorrect, go to "looks say", "the answer is wrong! For seconds", then go to "sounds choose a sound", select "crowd laugh", then go to "control", click "wait second". Then for the second to fifth questions, the fourth monologue coding method for the first question is duplicated starting from the active set to 0. Next, it is how the quiz designing for the fifth monologue.

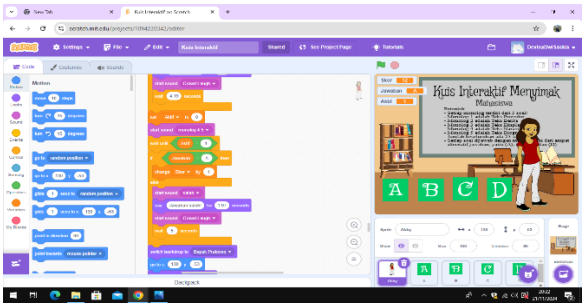


Figure 34. *(5) Coding monolog quiz 5 1*

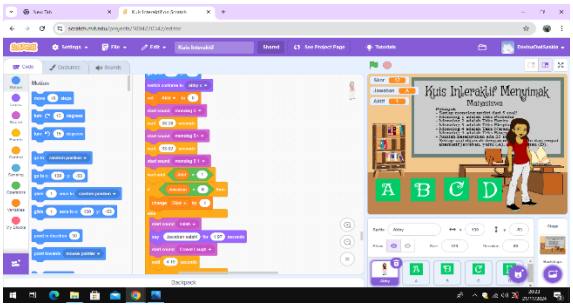


Figure 35. *Codding monolog quiz 5 1*

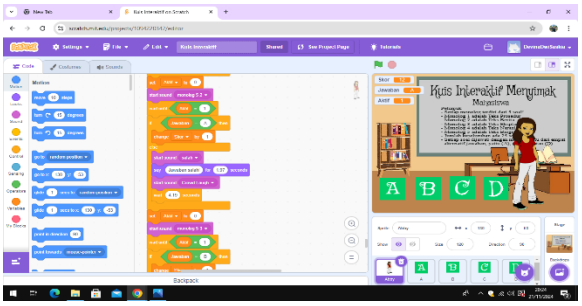


Figure 36. *Coding monolog quiz 5 1*

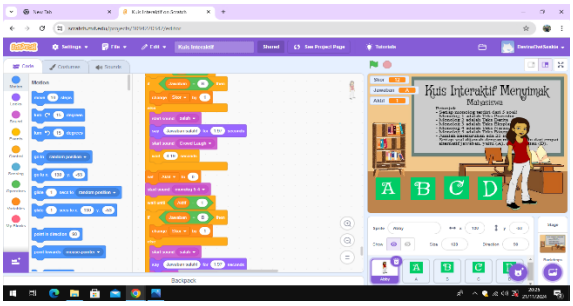


Figure 37. *Coding monolog quiz 5 1*

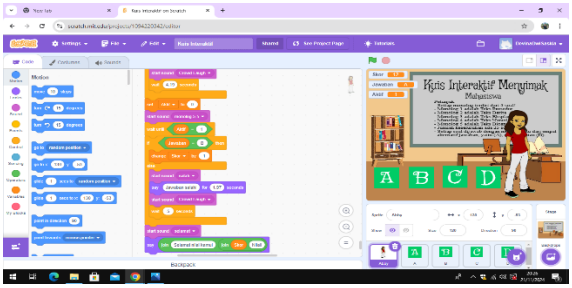


Figure 38. *Coding monolog quiz 5 1*

In the fourth monologue, in figure 34, the costume and the backdrop are changed. The first way is to go to" looks", select "switch backdrop" to "Pak Prabowo", then to "motion", select "goto x to y", go to "looks", select "switch costume" to" abby-c", then go to "variables set" active to 0. Next is for creating the sound. First, go to "sound", select "start sound monologue 5", then go to "events" select "wait seconds", repeat until the fifth monologue story is finished. Then go to "sound", select "start sound" fifth monologue question, then go to control, select "wait until", then "operators" select "=", go to "variables", enter "active". Then go to "control", select "if" then "else", in the "if" section, go to "operators", select "=", and enter "variables" answer and select "change skor by". While in "else" section, go to "sound", click "start sound", choose incorrect, go to "looks say", "the answer is wrong! For seconds", then go to "sounds choose a sound", select "crowd laugh", then go to "control", click "wait second". Then for the second to fifth questions, the monologue coding method for the first

question is duplicated starting from the active set to 0. Next, it is how the quiz designing for the fifth monologue.

In the final stage of coding, the first step taken is going to “sound”, select “start sound” “congratulation”, then go to “looks”, select “say hello!”. The word “hello!” then replace with “join Apple banana” placed in “operator” code, then the word “apple” is changed to the sentence “congratulations your score!”. While for the word banana is replaced by the word “score!”. Next, is the final display to return to the homepage of the quiz.

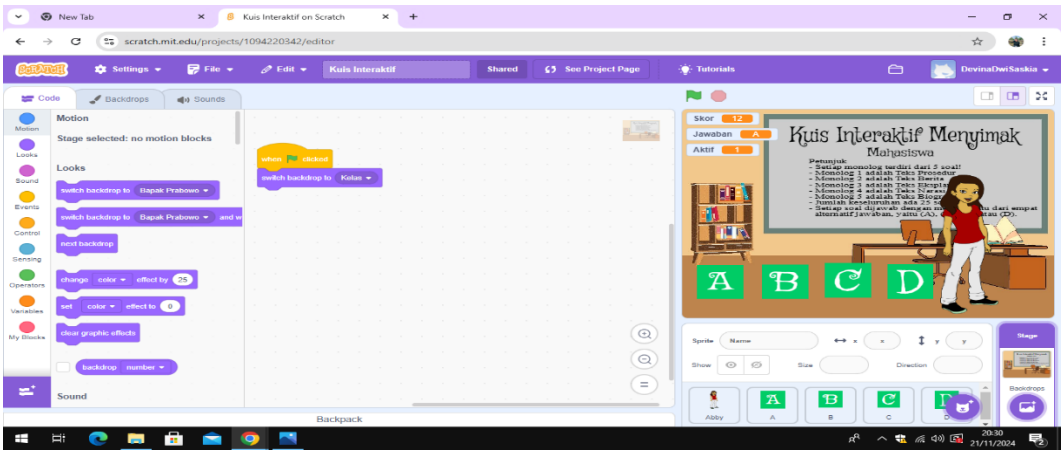


Figure 39. *homepage (Class)1*

Figure 39 shows how the quiz design return to the homepage when the i quiz is finished. There are some steps in creating this. Fisrt, enter “stage backdrops” class, go to “events”, then selects “when the green flag clicked”, go to “looks”, click “switch backdrop to” class.

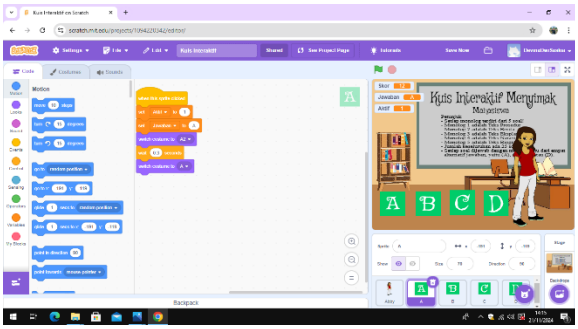


Figure 40. *Multiple Choice A 1*

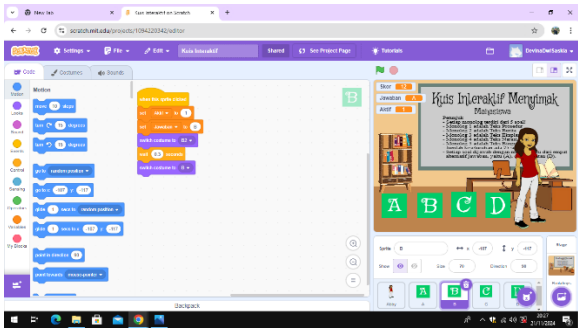


Figure 41. *Multiple Choice B 1*

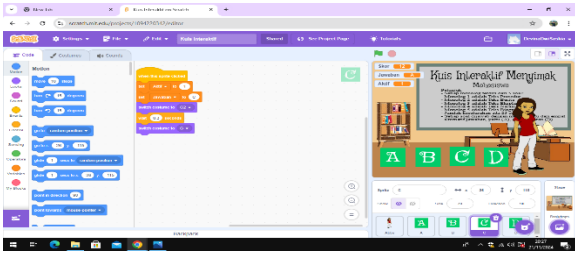


Figure 42. *Multiple Choice C 1*

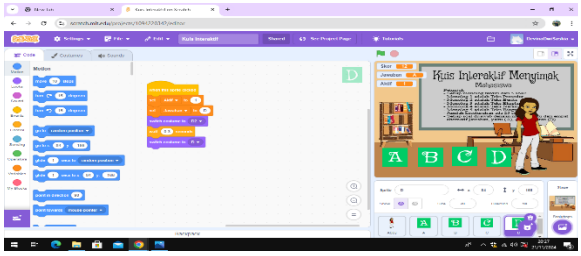


Figure 43. *Multiple Choice D 1*

Figure 40-43 show how multiple choice is designed. In figure 40, starting from A, go to to "events", then select "when this sprite clicked", go to "variables", selects "set active to 1" and set the answer to A, then go to "looks", select "switch costume to A2", click "control", select "wait second", go to "looks", select "switch costume to A". Next, option B in figure 41, go to to "events", then select "when this sprite clicked", go to "variables", selects "set active to 1" and set the answer to B, then go to "looks", select "switch costume to B2", click "control", select "wait second", go to "looks", select "switch costume to B". Next, for option C in figure 42, go to to "events", then select "when this sprite clicked", go to "variables", selects "set active to 1" and set the answer to C, then go to "looks", select "switch costume to C2", click "control", select "wait second", go to "looks", select "switch costume to C". Last , option D in figure 43, go to to "events", then select "when this sprite clicked", go to "variables", selects "set active to 1" and set the answer to D, then go to "looks", select "switch costume to D2", click "control", select "wait second", go to "looks", select "switch costume to D".

4. *Verification*

Verification is the stage where the system is tested to identify possible bugs or deficiencies, so that improvements can be made before the system is used further (Septianisya and Anggoro, 2024). In sum up, verification is the stage of system testing to ensure and correct deficiencies before use. So before publishing the quiz, it is evaluated first.

The are some stages in evaluating the produced quiz.. The first is login to the website https;//scratch.mit.edu. Then "see inside" the project named interactive quiz then enlarge the project and click the "green flag". When the "Green flag" is running, the interactive listening

quiz plays and displays the quiz correctly. The sound on the quiz runs well. Abby plays the character according to the operation. The backdrop makes transitions according to the programming. All multiple choices (A, B, C and D) can be played. They change the color from green to red if the user makes a mistake in answering the quiz. This is in accordance with the designer's operation. It means that the verification on the interactive listening quiz did not find any irregularities.

Maintenance

The following figures show some ways to maintain the quiz design

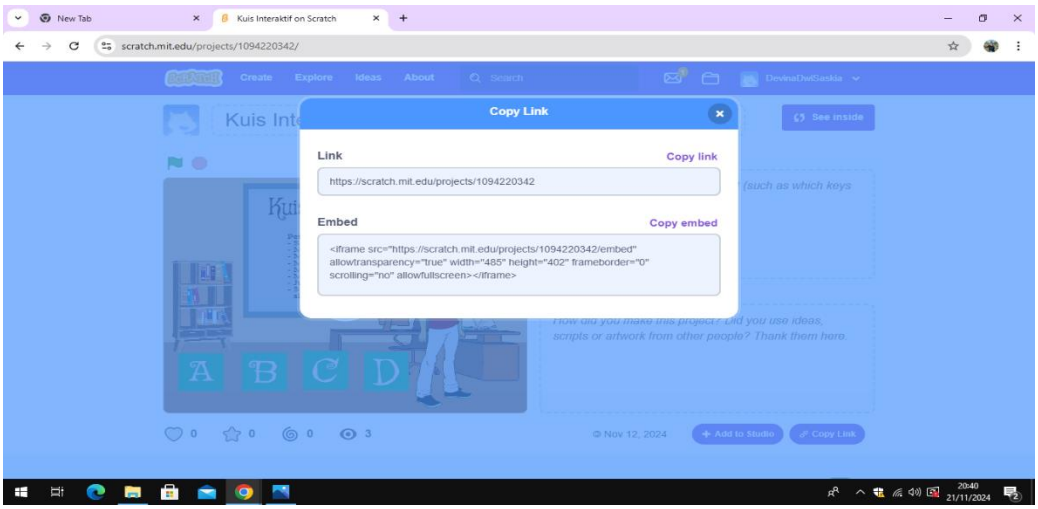


Figure 44. Quiz Link 1

Figure 45. *Quiz Display1*

Figure 46. *Quiz Display 1*

Figure 47. *Quiz Display 1*

In the maintenance of the quiz design, users can play the quiz by opening the scratch website link given by the designer. After opening the link, users will be shown the first page that shows the introduction of the character (Abby), instructions, and the number of questions on the interactive listening quiz. Users are advised to write their full name and readiness.

After the user has filled in the rules on the interactive listening quiz, the user will automatically enter the first monologue related to the procedural text story containing five questions. The rules on the quiz are that if the user answers the question correctly, the user will

get a score and will be active. While if the user answers incorrectly, the score will remain the same or will not increase, and the multiple choice will be red. After answering the five questions, the user will continue to the second monologue about the news text story containing five questions. Then continue to the third monologue about the explanatory text story, next to the fourth monologue about the narrative text story, and finally to the fifth monologue about the biographical text story. On the last page, the user will see the final score of their quiz. The following is the initial display of the interactive listening quiz.

Figure 48. *monolog quiz 1 Correct 1*

Figure 49. *monolog quiz 1 Incorrect 1*

In Figure 44, the users will enter the quiz using the link given. Then they will be greeted Abby. She will introduce herself and the users and ask for the readiness to answer the interactive listening quiz. After that, the user will automatically enter the first monologue about a procedural text story consisting of five questions. After answering the first monologue question, the user will automatically be in the second monologue displaying a news text story consisting of five questions.

Figure 50. *monolog quiz 2 correct 1*

Figure 51. *monolog quiz 2 Incorrect 1*

After the users answers the second monologue question, they will automatically be on the third monologue. The third monologue displays (figure 52) an Explanation text story consisting of five questions.

Figure 52. *monolog quiz 3 correct 2*

Figure 53. *monolog quiz 3 Incorrect 3*

Next, when the users have finished answering the third monologue question, they will be automatically on the fourth monologue. The fourth monologue is about a narrative text story consisting of five questions

Figure 54. *monolog quiz 4 correct 4*

Figure 55. *monolog quiz 4 Incorrect 5*

After the users have finished the fourth monologue question, They will be dirrectly on the fifth monologue. The fifth monologue displays a Biography text story consisting of five questions. This is the last part of the quiz.

Figure 56. *monolog quiz 5 correct 6*

Figure 57. *monolog quiz 5 incorrect 7*

Figure 58*. final score of interractive quiz 1*

In this quiz, the users must follow the rules given. The users must listen five monologues and answer five questions for each. So, there are twenty five questions that should be done by the users. If the user answers correctly, the score will increase and continue to the next question. Meanwhile when the user answers incorrectly, the multiple choice on the quiz display will change to red and the score will not increase. It remains at the initial position of the score obtained. Although they answer is wrong, they still can continue to the next question. After answering the five monologues, the user will know the score they have obtained and it will appear on the quiz display.

4. CONCLUSION

Based on the results of the research, it is shown that the Scratch Website had completed the Interactive Listening Quiz Design for University Students. The SDLC-waterfall model stages are considered eligible for this, including 1) requirements or planning which describe the design of the interactive quiz and the purpose of using the interactive listening quiz for students, 2) design that produces an attractive quiz display for students to practice their listening skills, 3) Implementation which aims to provide steps from creating an interactive listening quiz design for students in using the scratch website, 4) Verification or operation that is how the designer evaluates the final results in designing the quiz, and 5) Maintenance which produces an interactive listening quiz for students that can be played and worked on.

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