

Intro:

This is the planning for the Eddie Mabo Quiz I created for my Year 10 IT assessment. This Quiz has 10 questions with information given beforehand. Made with python, this quiz makes use of tkinter GUI and the pillow library for image manipulation. Hope you enjoy the quiz!

TESTING TABLE

Criteria	Expected Result	Actual result	Final Product
Clean UI ->	Clean, non-blurry UI.	A brief stint with tkinter's native scaling function proved unsuccessful.	By using a lesser-known function from ctypes windows DLL – loading library, you can change the DPI awareness of tkinter, and can fix the blurriness of its created windows.
-> DO NOT HARD CODE <- (Loop through all intensive tasks if possible, and make quiz as expandible as possible) ->	Clean, looped, expandible code.	Difficult to achieve, and a lot of the variables were hard coded, which is ugly to look at and even uglier to code. Can single-handedly give you carpal tunnel.	By far the hardest hurdle. It is quite simple to just hard code everything into a single file, but looping it is the correct way to achieve repeatability and expandability. I believe I have achieved this, as all looped variables are stored dynamically as lists, and their capacity can be increased at a whim.
Use minimal imports ->	Attempt to remain entirely standard.	Tried to avoid using pillow, but the pain of having to use .png only just isn't practical, so I decided to use pillow.	Not completely achieved, needing to resize and access different image extensions requires the use of Pillow, which is an external import. However, this is by far not the greatest criteria to meet.
Avoid PyQt5 (Planning)	Native tkinter GUI.	Big fan of PyQt5, but decided to stay away from it.	Already achieved in planning; I felt that using designer.exe from PyQt5 to design my UI would be considered a bit too lazy, so I decided to stick with tkinter and work

			the UI the old-fashioned way.
Basic UI needs to be functional (menu bar, buttons work, etc.) ->	Clean, FULLY FUNCTIONAL GUI.	Mostly successful, one of the menu buttons was bugged originally, so I fixed it. Calling functions with hotkeys proved to be an entirely new level of annoyance by itself, but was fixed by using an empty event parameter.	While usually a no-brainer, I have made many applications with Qt and tkinter, and wiring all the buttons to perfection is a job quite difficult, and one I'm not very good at. So, I've decided to add it as a criterion. (Note: I failed this criterion several times earlier, only the latest version <i>seems</i> to be bug-free... for now).
Flawless previous, next and finish buttons ->	The movement of the slides must be perfect, no errors thrown, etc.	Was quite difficult, especially due to the non-human and unintuitive nature of lists. The original solution/s included in /old are prime examples of this. Eventually, by adding and subtracting 1's from indices I made it readable by humans.	By far the hardest part of the application, creating the actual "pages" this was the part that took the most time, and is what I'm most proud of. By creating a page manager, the <code>__init__</code> function of the class takes care of all of the dirty work such as wiring the radiobuttons, etc., and we can use a somewhat analogue and rudimentary counter to count the page we are on, as seen by the variable <code>"current_page_number"</code> . As far as I can tell, this version seems to be the one with the most flawless next, previous and finish functions.
Needs to have at least 3-5 images ->	Took a bit of effort. I decided to use the json file as the source of the image, which made things quite a bit easier.	Used 2 images in <code>cls externals</code> and <code>main_application</code> .	Barely passed, as at the last minute I decided not to include images in the questions area. I don't regret the decision, as it looks way more polished this way. Decided to add another image in the content slides in <code>cls externals</code> .

QUESTION ANALYSIS

All the questions and the information given at the beginning of the quiz are in a .json file called "quiz_data_eddie_mabo.json".

INFORMATION:

Eddie Koiki Mabo was born on the 29th of June, 1936 on Mer Island. An avid artist and performer, Mabo would immerse himself in the cultures of his land, and would eventually come to learn English along with his native language, Meriam, and Torres Strait Islander creole. Today, Mabo Boulevard is named after him in Canberra.

During his teenage years, Eddie Mabo was found guilty of consuming alcohol and was exiled for a year in accordance with indigenous law. After taking a boat to Queensland, he would find his future wife, Bonite Nehow. He would then be hired as a gardener for James Cook University, where he would often give lectures around his culture. Mabo, who was already involved with politics, would then create a community school for indigenous education in 1973.

On the 20th of May, 1982, Eddie Koiki Mabo and fellow Mer Islanders, after realising from a colleague at James Cook University that his native lands did not legally belong to him, would begin their legal claim to ownership. Originally, it was the Queensland Coast Islands Declaratory Act 1985 that stood in his path, but through fierce opposition and determination, the high court, led by Justice Moynihan, would find the Act against the Racial Discrimination Act 1975. The Queensland Coast Islands Declaratory Act 1985 claimed the Torres Straits islands in their ownership, and claimed any compensation, be it any form, unnecessary. This allowed the case to proceed, and eventually resulted in the overturning of the terra nullius myth, which claimed that Australia was "free for taking" by the British.

Question No. 1:

Question Number 1: "What did the Mabo vs Queensland case achieve? - Choose the MOST correct answer."

Options:

"Remove the institution of terra nullius"

"Remove the exile placed on him from his time on the island of Mer"

"The Mabo case proved that the British had committed crimes during their colonisation of indigenous soil."

"Prove that the British had claimed indigenous soil."

Answer: Option 1

Explanation: Most of these answers are incorrect, as Eddie Mabo wanted to prove that his ancestors living in the Torres Strait had been doing so well before the British landed and laid claim to the lands under “terra nullius”. As of such, the most correct answer is Option 1.

Question No. 2:

Question Number 2: "What area is named after Mabo?"

Options:

"Mabo Court, Canberra"

"Mabo Boulevard, Canberra"

"Koiki Rd, Queensland"

"Koiki Place, Queensland"

Answer: Option 2

Explanation: This is a simple, factual question that involves reading and remembering information from the content slides. The answer is Option 2.

Question No. 3:

Question Number 3: What university did Mabo work at first? What did he work as?

Options:

"James Cook University - as a cleaner"

"James Cook University - as a gardener"

"Monash University - as a professor of law"

"University of Queensland - as a cleaner."

Answer: Option 2

Explanation: Another factual question that takes advantage of our users' memory. If they do not remember the profession from the first content slide, they have to choose between three options, and if not the university, two. This will distract them from the correct answer, Option 2.

Question No. 4:

Question Number 4: What was the name of the judge who oversaw the court during the Mabo case?

Options:

"Justice Anthony Frank Mason"

"Brian Keon-Cohen"

"Justice Moynihan"

"Chief Justice Sir Harry Gibbs"

Answer: Option 3

Explanation: Yet another factual question involving the forgettable mentioning of Justice Moynihan in the content slides, with several other names to throw the user off from the correct answer, Option 3.

Question No. 5:

Question Number 5: What was the turning point that led to Eddie Mabo pursuing his case? - Choose the MOST correct answer.

Options:

"Realising that under the eyes of the law, he and those that stood up with him had a chance of removing indigenous discrimination"

"Realising the incredible injustice shown to his people due to white-claimed 'inferiority'."

"Realising that his exile could be done, given that he could prove his changed ways."

"Realising that in the law's eyes, the island of Mer and other indigenous land belonged to the crown, not them."

Answer: Option 4

Explanation: Mentioned in the content slides, when Mabo met up with his colleague at James Cook University, he was shocked to realise that the British had claimed his and his ancestor's land as their own, which prompted the organising of the case that we know today as the Mabo Case. All other three are distractors which point away from the correct answer, Option 4.

Question No. 6:

Question Number 6: Where is Mer Island?

Options:

"Located off the coast of Darwin."

"Located in the Torres Strait off the coast of Queensland"

"Located off the coast of Brisbane."

"Located off the coast of Tasmania, in the Bass Straits."

Answer: Option 2

Explanation: All the answers are incorrect but Option 2, and the distractor that most resembles it is Option 3, which refers to the right side of Australia, rather than the top.

Question No. 7:

Question Number 7: Of what culture does Eddie Mabo belong?

Options:

"Mabuiag people"

"Tudu People"

"Meriam People"

"Erubam Le"

Answer: Option 3

Explanation: As mentioned in the content slides, Mabo belongs to the Meriam people of Mer Island. All other three are real cultures in the Torres Strait, with Mabuiag containing syllables like Meriam to throw the user off from the correct answer, Option 3.

Question No. 8:

Question Number 8: When and where did Eddie Mabo create the community school?

Options:

"In 1973 - Clemant"

"In 1983 - Townsville"

"In 1973 - Townsville"

"In 1983 - Rollingstone"

Answer: Option 3

Explanation: By making all the options share traits two at time, the user, if he has any doubt at all, will struggle to choose the right answer, which is Option 3. Of course, all the data is mentioned in the content slides.

Question No. 9:

Question Number 9: What is the name of Mabo's wife?

Options:

"Bonita Neehow"

"Poipe Sambo"

"Maali Bani"

"Yindi Lowanna"

Answer: Option 1

Explanation: Again, the answer to the question has been mentioned only once, making it easy to forget. By adding convincing distracting, we can conceal the answer, Option 1.

Question No. 10:

Question Number 10: What was the Queensland Coast Islands Declaratory Act 1985? - Choose the MOST correct answer.

Options:

"A law claiming the right of the Queensland government to claim ownership of the Torres Straits islands at any time"

"A law outlawing indigenous education in Queensland."

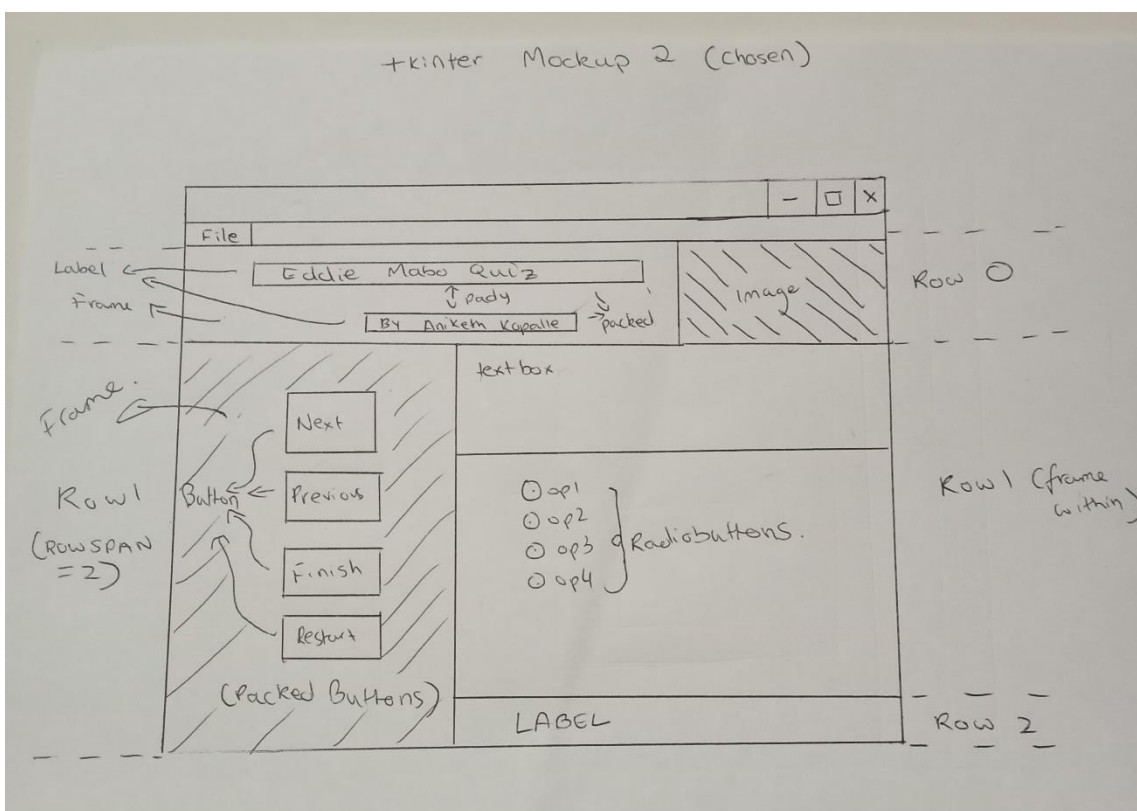
"A law acknowledging the indigenous ownership of the Torres Straits islands"

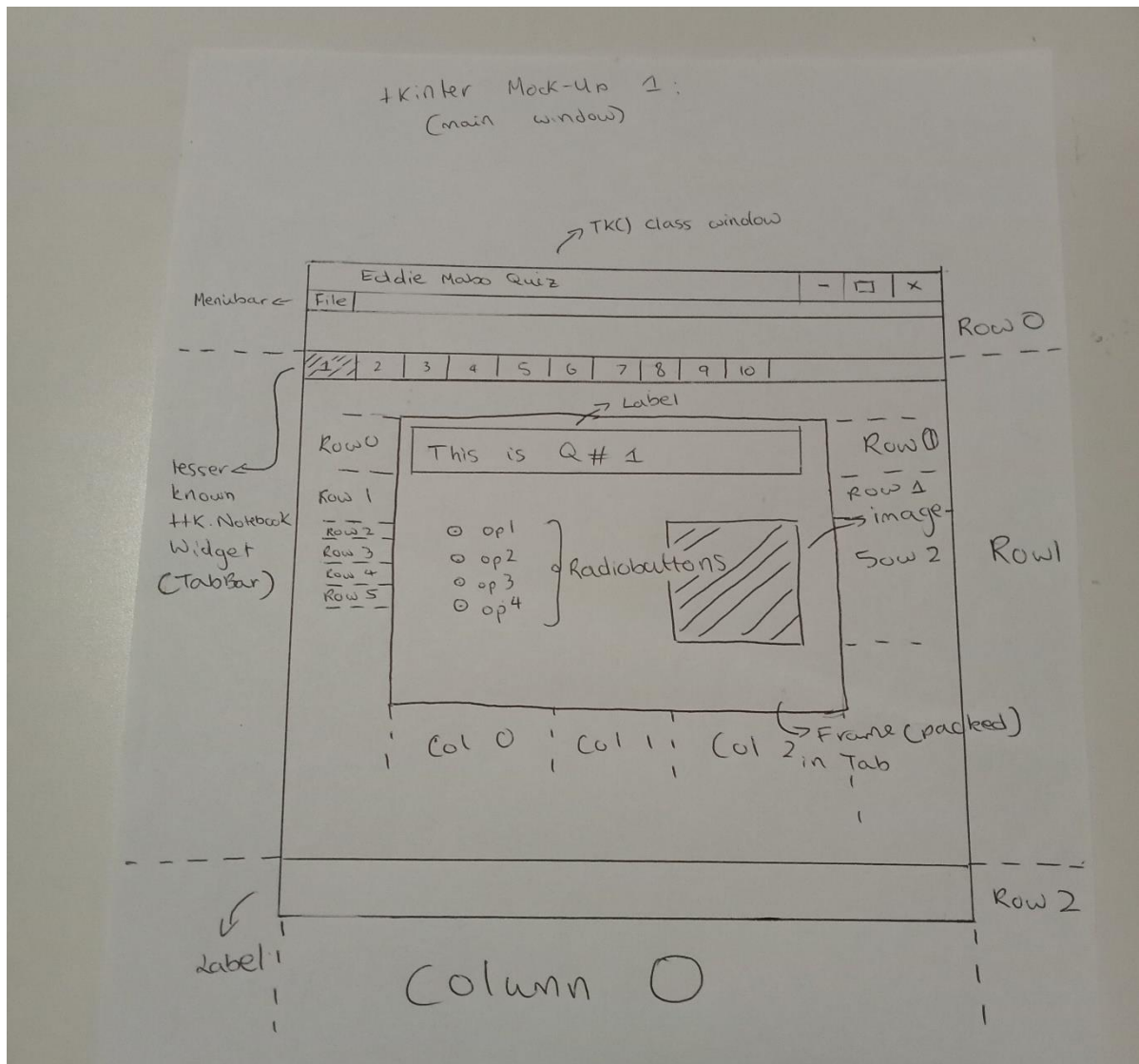
"An act attempting to annex the islands in the Torres Straits."

Answer: Option 4

Explanation: This question is a trippy one, as answer 1 and 4 appear to be almost entirely correct. However, the most correct answer is answer 4, as the act CLAIMED ownership, and did not leave any legal ownership to the indigenous owners. All of the other distractors conceal the answer, Option 4.

tkinter Mockups:





Evaluation:

I created my quiz like some designs I found online and Mr. Leong's design. However, the main difference is the aesthetic of the app and the fact that all the functions are looped. By far the most difficult was making all the widgets and class initialisations loop, while also making them available dynamically. I achieved this through the usage of lists, and to a lesser extent, dictionaries. In terms of content, the reason I chose Eddie Mabo as my topic was precisely the fact that I had never heard of him before, and I thought I'd learn something about him and share it in the form of a quiz. Originally, I thought that using the Notebook from the tkinter's ttk submodule would be the best way to go, but then I realised that it is quite poorly documented, and if successfully pulled off, would be a little eccentric in terms of functionality. I decided then to use a simple Frame with widgets, text and placements that can be changed as the page changes. In hindsight, it would have been significantly

easier to just change the text of the widget, rather than repopulating the frame with the widgets again and again, as they themselves are the same. Keeping the same widgets on the frame and just changing the text would have been easier to code and quite a bit faster, too, but by the time the thought entered my head, it was too late. An interesting design choice I made which I am still a bit confused as to what to think about it is the separation of the two application classes. My original reasoning was that the only shared variable between the starting screen and the main quiz is the name, so it'd be simpler and easier to code to make both phases separately. However, as I realised the idea, it began to dawn on me the fact that the loop in the `__main__` section is a while loop, I need to change certain normally unnoticed things. I had to specifically state that on window exit the program needed to *exit*, not just destroy the parent window. I also had to separately set the icon. However, in terms of actual difficulty, it was quite low. Just an unusual method of application construction. Beyond the actual tech involved, I had a ton of fun attempting to loop the app and not hard code variables as I did in my many, many old versions.

Hope you enjoy my quiz!

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