

CAT 4 RESOURCE DEVELOPMENT

GROUP 4-026

PROJECT SMART NATION

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ABSTRACT

Project Smart Nation is a user-friendly and amalgamated resource package which focuses on educating the future generation with the different futuristic schemes currently in existence and emphasise to them why it is essential to start learning at a young age. We are at a most exciting and dynamic time in human history, and stand at the cusp of a new industrial revolution fuelled by digital technologies.

Technological disruption is a global force we must confront and harness to our advantage. Today, developments in digital technologies are rapidly advancing, and the next frontier – big data analytics, artificial intelligence (AI), Internet of Things (IoT) and robotics – will fundamentally transform the global economy and change the way we live, work and relate to one another. A Smart Nation is where people will be more empowered to live meaningful and fulfilled lives, enabled seamlessly by technology. Furthermore, businesses can be more productive and seize new breakthroughs in the digital economy. As PM Lee described it at the launch of Smart Nation in November 2014, it is a nation “where we can create possibilities for ourselves beyond what we imagined possible.” The website, which is one of our components, contains a detailed and comprehensive guide to students. Moreover, the information undergoes consistent transformation to ensure that they are inculcated with the latest technology and pictures/videos are also added to act as interactive factors. Besides, users are presented with a feedback platform such that they could provide opinions and enable us to continuously improve. Last but definitely not the least, a game was created to test our target audience, a lower secondary student’s knowledge after coming across the website.

1 INTRODUCTION

1.1 Rationale

With countries like China advancing consistently in their future technologies, Singapore has to stimulate new growth to thrive in this ever-competitive industry. However, with a lack of education at the adolescent stages, our country might not experience success. Apart from this, the current sources on the Internet will only cause information overload for the students and this results in them not being able to absorb all the integral knowledge.

1.2 Objectives

The objectives of Project Smart Nation were to educate students on the different futuristic schemes that are put in place currently, show them the usefulness of preparing themselves for the future, and equip students with the necessary skills required for the future.

1.3 Target Audience

The target audience was Lower Secondary students (aged 13-14).

1.4 Resources

The resources created for this project were a website, Instagram account and Scratch game designed to test the student's knowledge.

2 REVIEW

The only currently available website, [Smart Nation Singapore](#), is focused on Singapore's initiatives in its transformation into a smart nation. There is little information on concepts that are in use across the globe and is more focused on what will differentiate Singapore from other smart nations in the future. The website is also wordy, with few pictures and no interactive elements. It also does not break down more complex technological concepts into simpler terms, hence younger viewers may not understand some words used. Right below is an example of a page in the smart nation website as compared to our own initiative. As shown, it is not as wordy and it is easier to comprehend, unlike the smart nation website.

An example from the smart nation website: (Adapted from <https://www.smartnation.sg/why-Smart-Nation/transforming-singapore>)

ideal location for companies and researchers to develop, prototype and pilot their technological solutions.

Industry and Start-up Ecosystem

Start-up accelerators such as JTC Launchpad, a strong presence of venture capitalist and MNCs, and the formation of SGInnovate, support Singapore's start-up ecosystem by connecting technopreneurs with industry mentors, and being the bridge between innovation and enterprise.

The Punggol Digital District (PDD) is an example of an environment that we are developing to attract the best tech companies and talents, and foster their growth. Through clustering of the growth sectors, we aim to bring together high-value digital services in PDD, as well as create an ecosystem with conducive test-bed environments that enable our businesses and the community to thrive in a digital economy.

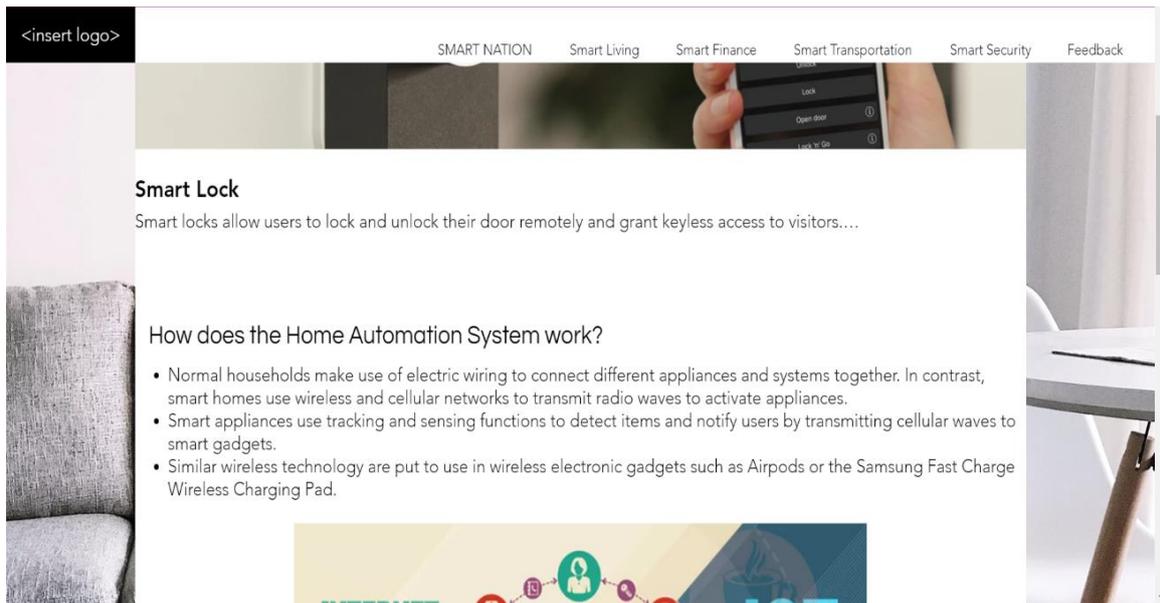
Cybersecurity and Data Privacy

Cybersecurity is a key enabler of our Smart Nation. We recognise the possible risks, and prioritise privacy of data and safeguarding of critical systems and networks, even as we make them smart.

Computational Capabilities and Digital Inclusion

Our Smart Nation efforts are underscored by re-skilling and promoting the learning of coding and computational thinking skills, to ensure that all segments of the population benefit, regardless of age or digital literacy. Resources are also in place to assist companies and SMEs as they seek opportunities in the digital economy.

Our own smart nation initiative:



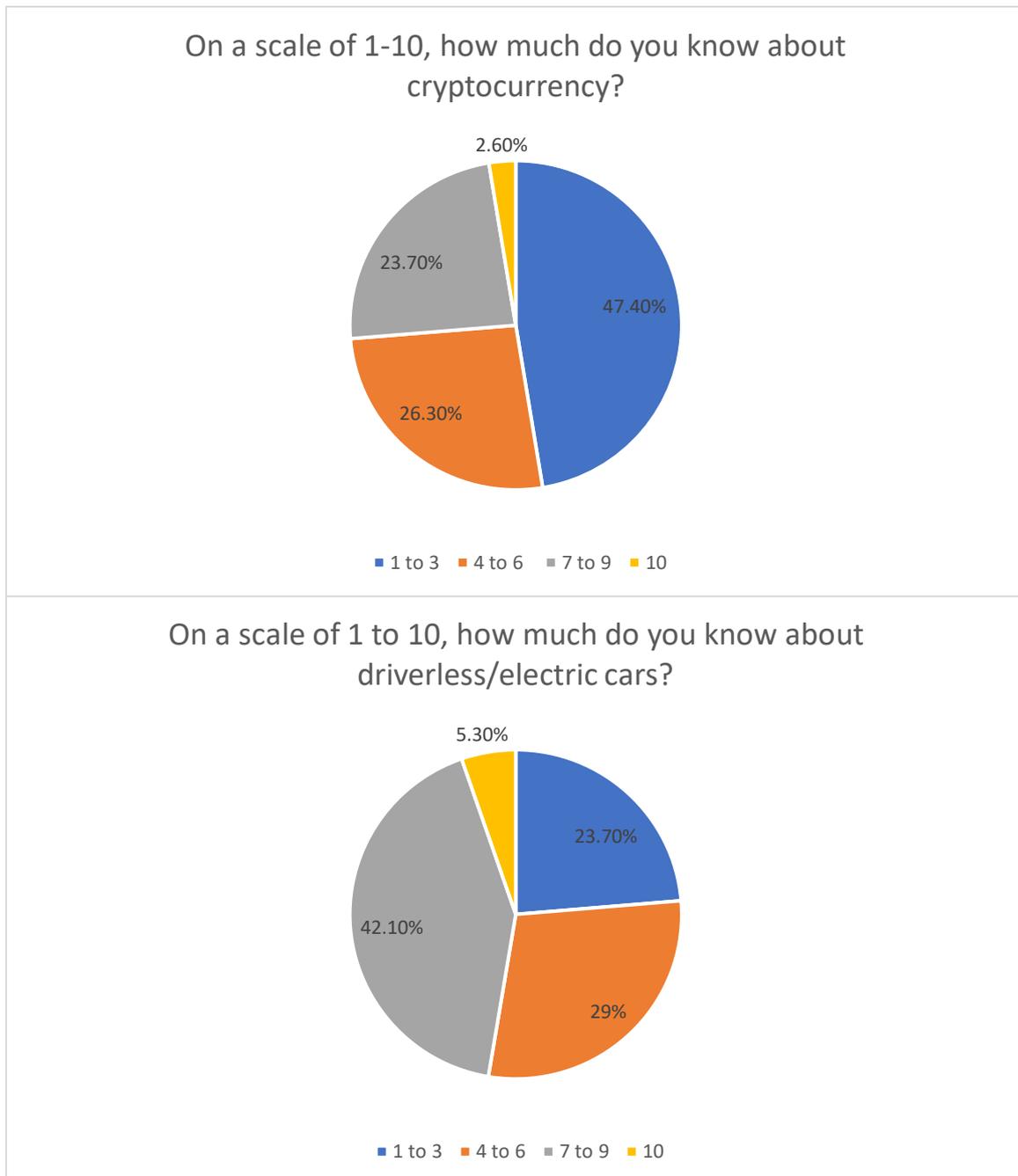
3 METHODOLOGY

3.1 Needs Analysis

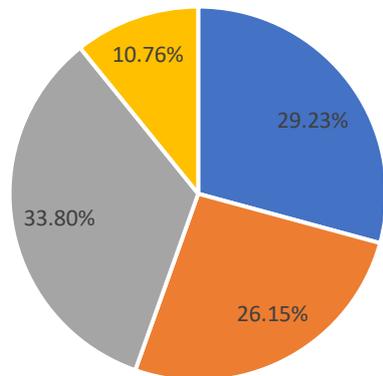
A needs analysis was conducted to ascertain the relevance of such a project. Firstly, a survey was constructed using Google Forms to establish the respondents' position on a Smart Nation. This feedback confirmed the feasibility of the project as many voiced out on their concern of not having enough knowledge about

Singapore's major transition into a smart nation. Secondly, we also asked them for their thoughts and feelings about Singapore taking this huge leap. Moreover, we wanted to find out the type of end product they wanted.

This survey was only sent out to Sec 1-2 students (our target audience) for more accurate results.



What are your preferred choices for our resource package?
(Can choose more than one)



■ Website ■ Instagram Page ■ Game ■ Posters and banners hung around the school

3.2 Survey Results

We asked the lower secondary school students about their knowledge on futuristic schemes such as cryptocurrency and driverless cars. As for cryptocurrency, nearly half (47%) of our respondents said that they have minimal/very little knowledge about cryptocurrency, which shows that many students are still unaware of futuristic schemes and hence need to be educated.

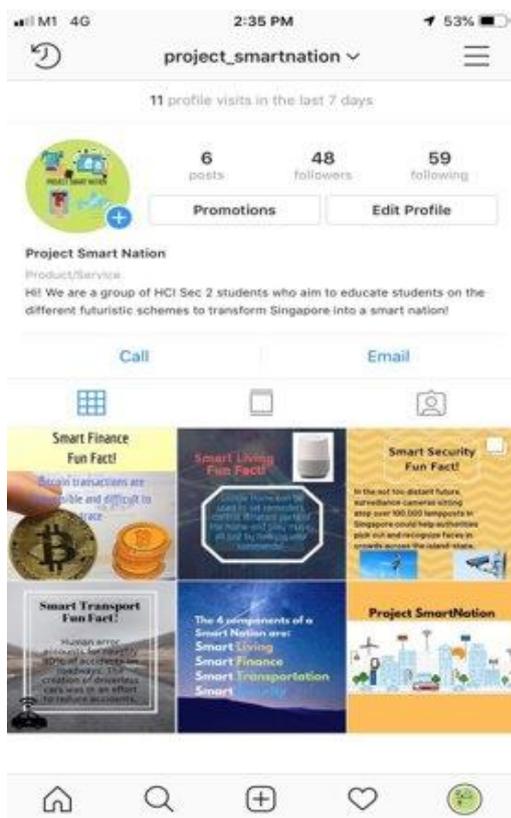
We also asked them how they would like to be educated/ what way would be most beneficial and efficient in helping them know of these futuristic schemes. The top choices were a game (34%), website (29%) and also an Instagram page (26%).

3.3 Development of Resources

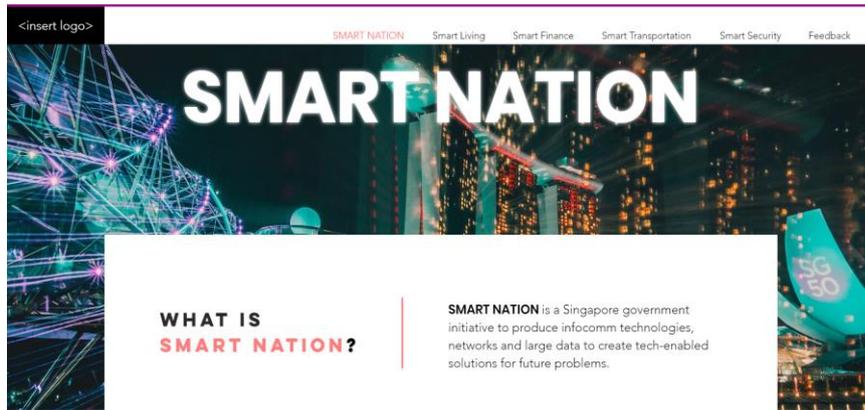
We adhered to the opinions of our target audience and created a website and Instagram page in term 2 and a game in term 3. With the help of WIX, we created a website which were less wordy, more aesthetically pleasing and easier for readers to understand. We divided our initiatives into 4 sub-sections, mainly Smart Living, Smart Finance, Smart Transportation and Smart Security, to allow users to search for information more easily. Also, we made a mini-quiz for Smart Security and Smart Finance, which is available to do under the “Smart Security” and “Smart Finance” section. We also set up an Instagram page and frequently posted facts regarding the components of a smart nation. Our game, which was created later on in term 3, is

made using the game-maker platform Scratch, where the player is allowed to move around and explore the futuristic world, with fun facts about a smart nation frequently appearing on the screen as the player moves, and also some multiple-choice questions quizzes at each checkpoint.

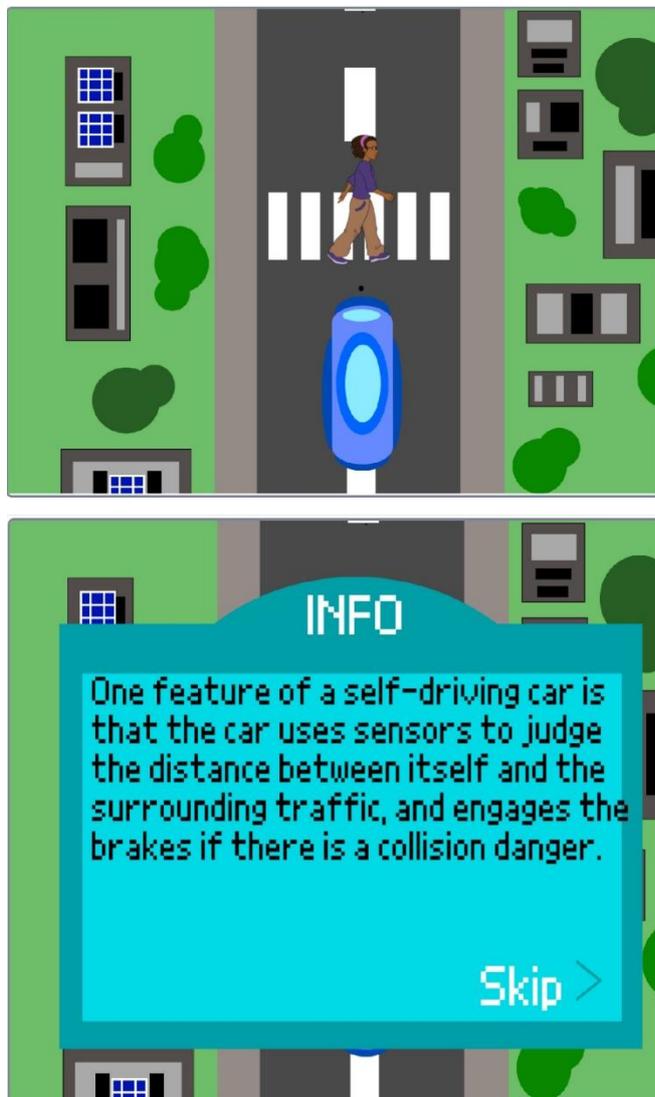
Instagram account:



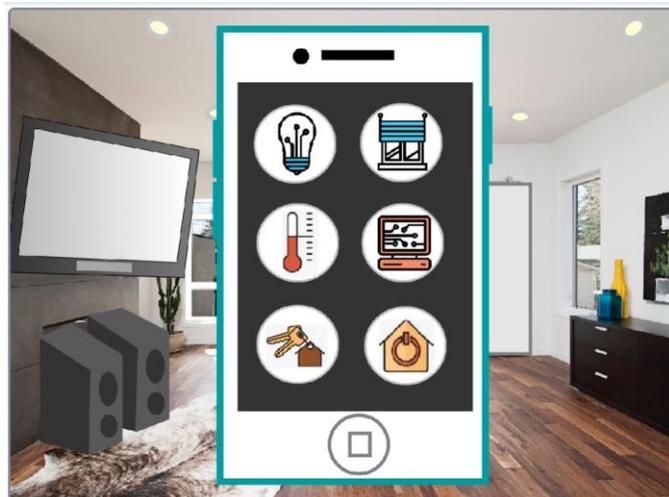
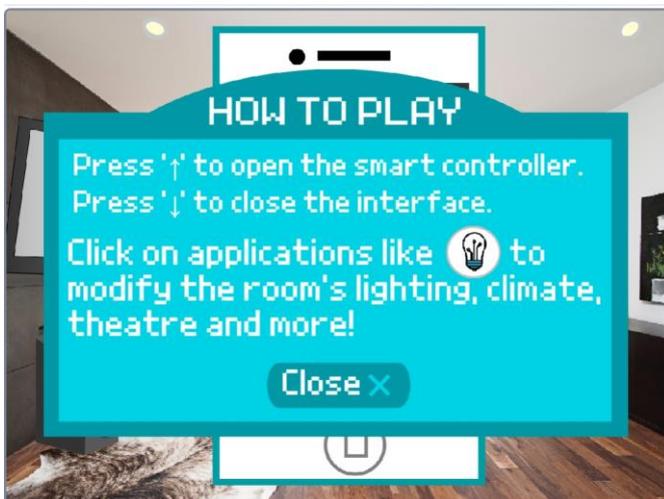
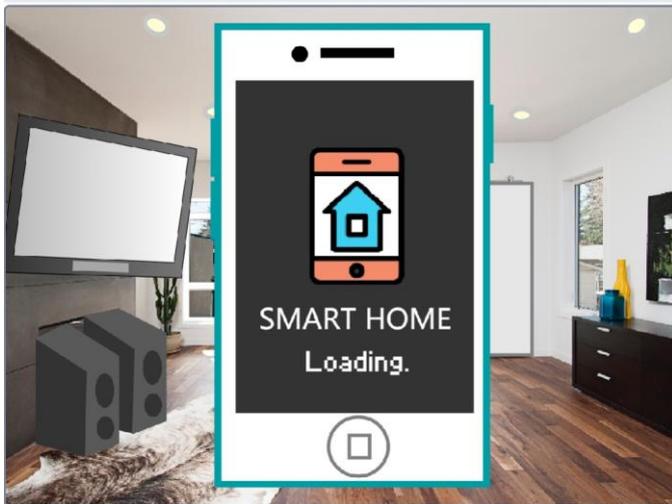
Our website:



Smart Transport Game (Made using Scratch):



Smart Living Game (Made using Scratch):



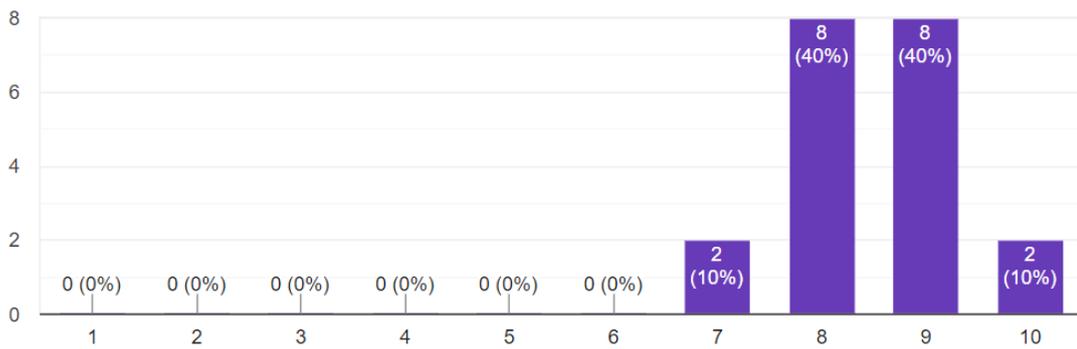
3.4 Pilot Test

A pilot test was applied to 40 secondary one to four students. This occurred through us depicting the completed website and social media account to them. Moreover, we sought for their feedback in hopes of being able to improve our package. Generally, the package was considered as affirmative but valuable aspects of improvement

such as incorporating more designs and videos were given by the interviewees. Around 65% of them wanted our website to be more interactive, while the rest of them wanted our website to have more images, specifically in each category, such that people who view our website will understand how the futuristic object looks like.

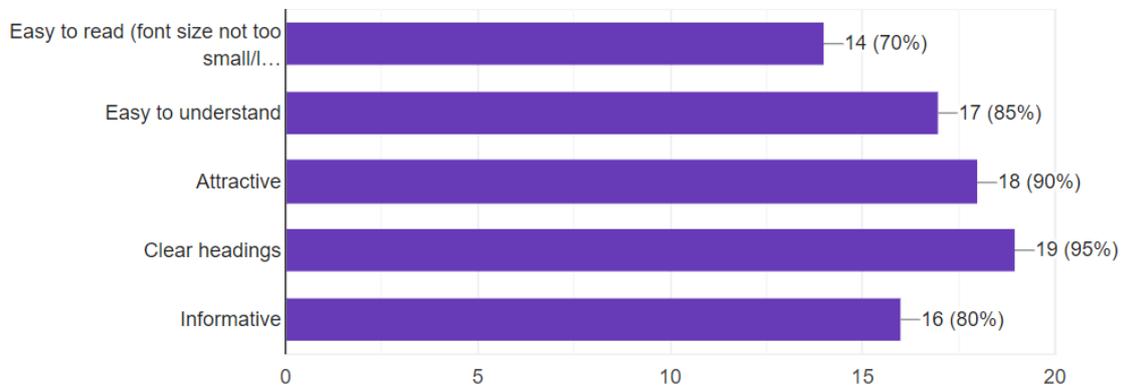
On a scale of 1-10, how helpful was our website?

20 responses



In what way was our website helpful?

20 responses



In what way can our website be improved?

20 responses

It is very good👍
Maybe more pictures to spice it up?
Should add in more attractive factors
The font abit too light ah
idk
Maybe more info for each category?
More pictures and videos would be nice
Maybe change the font?
More videos would be better tbh
NA
perhaps the font, (actually everything is good)
quite decent already

In what way can our website be improved?

20 responses

More videos would be better tbh
NA
perhaps the font, (actually everything is good)
quite decent already
font a bit light
its good enuf
very good job alr i like the background a lot
too many font colours
Personally, I feel that it is very all rounded, informative, so there is not much improvement needed
more pics i guess
nothin
more pictures

4. OUTCOME

We wanted to implement an interactive activity in the website in order to obtain a distinct difference from other sources such as Wikipedia or the Singapore smart nation website which only contain huge chunks of information. Hence, we added a simple game targeted towards lower secondary students that involved controlling a self-driving car and collecting bitcoin. Through this, we also aimed to ascertain the student's knowledge after reading through the contents of our website.

4.1 Limitations encountered

As these different aspects of a smart nation were relatively new, it was onerous for us to produce a sufficient amount of information for our target audience. Besides, as we had to practise time management and juggle our time between project work and common tests, we did not achieve the target of reaching out to the form teachers to utilise our package during the Form Teacher Period on Fridays.

4.2 Possible further works

We wish to still periodically update the latest futuristic initiatives on our website as we certainly would not like it to enter the outdated stage. Apart from this, as all our group members are granted access to the Instagram account, anyone of us can still take the initiative to continue posting interesting facts about a smart nation regularly!

5 CONCLUSION

Project Smart Nation was a strenuous project to undertake and complete as we had to be punctilious in ensuring that the package we provided was enriching and, at the same time, engaging and interactive for students. We had to keep the students' attention throughout his experience of visiting the website, which is especially difficult in a time where younger people have reduced attention spans. Moreover, we had to account for the educational value of the website and had to make sure the words used are simple to understand so students from any background can get a good grasp of the concept, which proved to be a challenge as many of the terms used are technical and scientific. Hence, we devoted a considerable amount of time in making sure to provide a fun learning experience for the students. Through this vigorous process, we also developed in the affective and cognitive domains. Skills such as creative thinking were put to the test when we had to brainstorm ideas for interactive

activities that not only had to provide educational value for the students, but also become our website's key defining feature. In addition, when we had to conduct our pilot test, it was requisite that we remain dedicated and patient as we had to face numerous rejections from the students. Determination was the core element in the final stages of the project as it enabled us to remain optimistic and carry on to finish our package.

6 REFERENCES

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Smart Living Page Background (n.d.) <https://images.unsplash.com/photo1532920065970cf27e118cc4d?ixlib=rb1.2.1&ixid=eyJhcnBfaWQiOjEYMDd9&auto=format&fit=crop&w=500&q=60>

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