Members

Abad, Mekyla Patrice G. Abanilla, Bemmygail S. Aguilar, Krystalle Gennise C. Aguinaldo, Karayan P. Alcano, Joinne Sherry Mae M. Alvarez, Arielle Dawn E. Alvarez, Kiyara Julianne L. Andam, Mark Kristian Angelo B.

Details

Topic: Smart City Concept

Approved Title: "Smart Cities: Digital Solutions for a Sustainable, Connected, and More Livable Future"

Description:

Guidelines

This is a Group Activity, so the members of the group will have a common submission.

This activity overlaps a bit between our last two modules. At the end of the activity, you should be able to do, or at least have experienced the following:

- 1. define and describe disruptive technologies
- 2. give an example of a disruptive technology and
- explain why and how the given example disrupts the status quo of the market/field/practice it is disrupting.
- 4. create and use collaborative tools for project management and version control (GitHub)
- 5. write and publish static web pages

React if you understand this 🤝 4

A'TH	-	

Timeline						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
19	20	21	22	23	24	25

		FIRST MEETING: 2pm Send GitHub Usernames Topic Finalization (Mekyla Abad initiated the meeting and started the call)	GitHub: Create an Organization & Repository	Content & Research: Start of the Building of the RRL/RRS		
26	27	28	29	30	1	2
			Deadline: Content & Research	Pre-design Stage		
3	4	5	6	7	8	9
			Start of Coding			
10	11	12	13	14	15	16
17						
Deadline						

Breakdown of Tasks					
Objective	Task	Assigned to -	Status		
1. Research	Provide 2-3 helpful readings/RRL and summaries	ALL	In Progress		
2. Learn how to use GitHub	Finish reading	ALL			

	https://docs.github.com/en/get-started/quickstart/hello-world		Review Stage -
Group content into categories & subcategories	Pre-design stage: Creation of Outline & Site Map	ALL	In Progress •
4. Visual Identity & Layout	(1) Colors(2) Typography(3) Content Types: text, video, audio(4) Design style	ALL	(In Progress •
5. Draft: First Version of Web Pages	Check for inconsistencies and elements that do not transmit our message clearly		Not Started •
6. Submission			

Research & Helpful Resources

DISRUPTIVE TECHNOLOGY

- Li, M., Porter, A. L., & Suominen, A. (2018). Insights into Relationships between Disruptive Technology/Innovation and Emerging Technology: A Bibliometric Perspective. Science Direct.
- https://www.sciencedirect.com/science/article/pii/S0040162517314609
- The Asian Post Team. (2018). How disruptive technologies are transforming Southeast Asia. The Asean Post.
 - https://theaseanpost.com/article/how-disruptive-technologies-are-transforming-sou theast-asia
- Majumdar, D., Banerji, P. K., & Chakrabarti, S. (2018). Disruptive technology and disruptive innovation: ignore at your peril! Technology Analysis & Strategic Management, 30(11), 1247–1255. https://doi.org/10.1080/09537325.2018.1523384
- Bego, K. (n.d.). Ten Challenges for The Internet. Next Generation Internet. Retrieved from https://www.ngi.eu/news/2018/10/22/ten-challenges-for-the-internet/
- Buhalis, D., Leung, D., & Lin, M. (Year). Metaverse as a disruptive technology revolutionising tourism management and marketing. Title of the Journal, Volume(Issue), https://doi.org/10.1016/j.tourman.2023.104724

SMART CITY

CNBC International.(2017). What is a smart city? | CNBC Explains. Youtube. https://www.youtube.com/watch?v=bANfnYDTzxE

Department of Science and Technology – Philippine Council for Industry, Energy and Emerging Technology Research and Development. (2021). DOST Framework for Smart Sustainable Communities and Cities.

https://pcieerd.dost.gov.ph/images/pdf/2021/roadmaps/sectoral_roadmaps_division/etdd/

D

OST-Smarter-City-Framework Draft-1-ao-8.4.2021-1.pdf

Development Academy of the Philippines. (2023, July 18). *The Baguio Smart City Project: Advancing Data-Analytics-Driven Governance - DAP*. DAP.

https://coe-psp.dap.edu.ph/compendium-innovation/the-baguio-smart-city-project-advance

Ramos, T.P., Lorenzo, P.J.M., Ancheta, J.A., & Ballesteros, M.M. (2023). Are Philippine Cities Ready

to Become Smart Cities? Philippine Institute for Development Studies. Research Paper Series

No. 2023-02.

https://www.pids.gov.ph/publication/research-paper-series/are-philippine-cities-ready-to-

<u>b</u>

ecome-smart-cities

Simeon, L. M. (2022, February 1). Challenges remain in developing smart cities in Philippines. *Philstar.com*.

https://www.philstar.com/business/2022/02/02/2157878/challenges-remain-developing-s mart-cities-philippines

Wu, T.L. (2022). Explainer: What Is a Smart City? Earth.Org.

ing-data-analytics-driven-governance/

https://earth.org/what-is-a-smart-city/

Angelidou, M. (2014). Smart city policies: A spatial approach. *Cities*, 41, S3–S11. https://doi.org/10.1016/j.cities.2014.06.007

Dameri, R. P. (2013). Searching for Smart City definition: a comprehensive proposal. International Journal of Computer and Technology, 11(5), 2544–2551. https://doi.org/10.24297/ijct.v11i5.1142

GITHUB

https://docs.github.com/en/pages/setting-up-a-github-pages-site-with-jekyll

REVIEW OF RELATED LITERATURE & STUDIES

What is a Smart City? - Aguinaldo, Karayan

With the fourth industrial revolution of the present, characterized by the Internet, digitalization, and the obscuring distinctions between physical and virtual worlds, industries everywhere are disrupted (Majumdar, et al., 2018). Local government units have no exemption. To keep up with these times of rapid technological advancements, cities in particular, implement various disruptive technologies in soft and hard infrastructures, hoping to improve the quality of life– from governance, economy, tourism, and recreation, to social welfare. These are smart cities, cities that strategically capitalize on Information Communication Technology (ICT) aiming for success, efficiency, and competitiveness in various socioeconomic aspects (Angelidou, 2014). Angelidou (2014) elaborates that the term "smart city" is considered ambiguous, as the preconceived notion that technological implementation immediately makes a city smart and the biased usage of the word "smart" perpetuates misunderstanding and ambiguity of what smart cities are. Even so, much literature shows that the smart city concept describes a myriad of heterogeneous solutions and city programs that employ and are mainly driven by various technologies, especially ICTs which connect different entities to provide digital services, to reach a set of goals (Dameri, 2013).

Now that we know what a smart city is, it is crucial to see how disruptive technologies interweave with the makings of a smart city. According to the Department of Science and Technology (2021), the smart city, as an ecosystem, provides various services that assure and enable information exchange, analysis, and statistics for the efficient usage of resources. Technology facilitates just that. With technology, the exchange, analysis, and statistical-making of information are done efficiently. And because information is shared and processed more quickly and efficiently, societal operations become more productive. ICTs and digitalization, in particular, update old processes with new and convenient ways for consumers.

The DOST (2021) identifies sustainable, efficient, and productive economic opportunity, education, environmental quality and natural resource conservation, finance, governance, health, safety and security, infrastructure, transportation, urban planning, and empowerment and inclusivity as indicators of a smarter city. Facilitated and supported by the effective implementation of disruptive technologies, different sectors and citizens can inch forward toward reaching these indicators, becoming smarter cities.

Challenges in Establishing Smart Cities in the Philippines

Simeon (2022) recently wrote an article discussing the PIDS study, which identifies several obstacles that the Philippines faces in its efforts to develop smart cities. Despite the country's progress, various factors are hindering its success.

While local government units (LGUs) may own the fundamental ICT infrastructure, upgrading it requires a significant budget, which most LGUs can't afford in a short time. Consequently, they face difficulties in financing and implementing the necessary information and communication technology infrastructure, which impacts their ability to accurately gather data, keep up with technological advancements, ensure cybersecurity, and more.

Moving forward amidst challenges is never easy, and it's even harder to establish policies that ensure accessibility and trustworthiness for all. This task is not solely the responsibility of LGUs. It requires the support and assistance of the national government as well.

Advantages of Establishing Smart Cities in the Philippines

- 1. More effective, data-driven decision-making
- 2. Enhanced citizen and government engagement
- 3. Safer communities and reduced environmental footprint
- 4. Improved transportation
- 5. Increased digital equity and new economic development opportunities
- 6. Efficient public utilities and improved infrastructure
- 7. Increased workforce engagement

Disadvantages of Establishing Smart Cities in the Philippines

- 1. Significant capital investment in technology
- 2. Dependence on technology service companies
- 3. Real estate becomes more expensive
- 4. Larger technological gaps
- 5. Increase in electronic waste

Source:

BBVA.(2021).Advantages and disadvantages of Smart Cities. Retrieved from: https://www.bbva.ch/en/news/advantages-and-disadvantages-of-smart-cities/

Smart Cities in the Philippines

Baguio, Philippines (Development Academy of the Philippines, 2023)

Baguio City is a prime example of how innovative Smart City platforms can leverage

data analytics and artificial intelligence to promote good governance. With the help of upgraded

infrastructure and a team of skilled staff with hardware and software development expertise, the

initiative transformed various aspects surrounding Baguio's overall functionality.

By utilizing multiple data sources, Al-enabled cameras, and environmental sensors,

informed decision-making, service, response, and resource allocation have become easier and

more convenient than ever. This has greatly improved tourism management, public safety, traffic

control, disaster risk reduction, environmental preservation, and citizen welfare.

The Command Center, with its real-time data analysis, has enabled quick

decision-making during complex situations and alerted not only authorities but also the public

through round-the-clock monitoring of traffic conditions, public welfare, and environmental

factors.

Thanks to these advancements, Baguio City continues to improve its technology and

enhance its services to the community.

Features of Baguio Smart City include:

• Smart Security System

Smart Emergency Response System

• E-Government System and E-Business Infrastructure

• Smart Tourism

• Environment Management

• Smart Transportation

Smart Healthcare Monitoring System

• External Projects

Mekyla Abad Contribution

Lead (First statement suggestion): Smart City: Living the Smart Way

In 2018, the Association of Southeast Asian Nations (ASEAN) established the ASEAN Smart Cities Network (ASCN), a collaborative platform where cities from the 10 ASEAN Member States work toward the common goal of smart and sustainable urban development.

The ASCN has initially identified 26 pilot cities, which for the Philippines include Manila, Cebu City, and Davao City. The Philippines committed to accomplishing smart city projects, such as the Command Center Upgrade and E-government Services in the City of Manila; the Bus Rapid Transit System and Digital Traffic System in Cebu City; and the Converged Command and Control Center and Intelligent Transportation and Traffic Systems with Security in Davao City.

According to a study by the Philippine Institute for Development Studies (PIDS), while the country has begun its path toward building smart cities, issues such as operational costs and lack of interoperability are among the biggest challenges. It said that local government units (LGUs) need to set up the necessary ICT infrastructure and systems needed to operate smart city initiatives, and while the majority of LGUs have existing basic ICT infrastructure, ensuring the continuous upgrade of their systems to match the rapid growth of the technology industry can be very costly.

New Clark City, a project by the Bases Conversion and Development Authority (BCDA) and various private sector companies, is expected to be the country's first smart, resilient, and green metropolis. According to BCDA President and Chief Executive Officer Aileen R. Zosa, the development of New Clark City aims not only to decongest Metro Manila but also to provide a catalyst to spread growth in Central Luzon and other provinces. Once fully developed, New Clark City is projected to become the home of about one million residents and provide job opportunities to around 600,000 Filipinos.

The BCDA has lined up several high-impact projects and programs in New Clark City, particularly in sustainable development, renewable energy, ICT, estate management, transportation, tourism, and smart city technologies, among others.

We hope these programs can be replicated in other cities in the country. While it may take time before our urban centers become fully smart cities, the transformation must already begin now, for us to keep up in this fast-paced world.

Reference:

Lamentillo, A. M. (2023, May 12). *Smart Cities*. Manila Bulletin. Retrieved December 6, 2023, from https://mb.com.ph/2023/5/11/smart-cities-1

SUMMARY 🚹

An article by Lamentillo (2022) discusses the prospects of smart cities in the Philippines. Lamentillo reports that as a part of the ASEAN Smart Cities Network (ASCN) established by the ASEAN in 2018, the Philippines is committed to achieving various smart city projects in Manila, Cebu, and Davao City. Lamentillo further points out that according to a study by the Philippine Institute for Development Studies (PIDS), issues arise and hinder the strive toward smart city development, such as operational costs and inoperability. Hence, she notes that LGUs must set up the necessary ICT infrastructure and systems to facilitate these smart city initiatives, however, even with LGU's existing ICT infrastructure, keeping their systems up to date with the constant advancement of technology can be quite expensive.

Lamentillo's article also reports that the Philippines' first smart, resilient, and green metropolis is expected to be the Bases Conversion and Development Authority's (BCDA) New Clark City, which aims to decongest Metro Manila and spur growth in Central Luzon and other provinces. It is indicated that once completed, it will potentially house one million residents and provide jobs for about 600,000 Filipinos. Furthermore, it is reported that the BCDA has set up several anticipated impactful projects and programs in New Clark City, i.e. sustainability, ICT, estate management, transportation, tourism, and smart city technologies.

Research on Makati City as a Smart City - Arielle Dawn Alvarez

CNN Philippines Staff published an article related to Makati City as a representative of the Philippines and Asia Pacific in 2023's World Smart City Awards. It is stated that Makati City will compete against different cities like Sunderland (United Kingdom), Cascais(Portugal), Izmir(Turkey), Curitiba(Brazil), and Barranquilla(Colombia).

Makati Mayor Abby Binay claims that the city won recognition for using Internet of Things (IoT) gadgets to develop "behavioral transformation" and "data-driven policies" for its residents. IoT devices may share data in a cloud by networking and forming a network via the internet.

Resource:

CNN Philippines Staff. (2023). Makati is PH's sole finalist at the World Smart Cities Awards. CNN Philippines. Retrieved from:

https://www.cnnphilippines.com/news/2023/11/4/makati-world-smart-cities-finalist.html

Disruptive Technology - Bemmygail Abanilla

Title: Metaverse as a Disruptive Technology in Tourism

Authors: Buhalis, D., Leung, D., & Lin, M.

Year: 2023

Journal: Tourism Management

DOI: https://doi.org/10.1016/j.tourman.2023.104724

This study delves into the transformative role of the metaverse in reshaping tourism

dynamics.

Authored by experts from Bournemouth University and The Hong Kong Polytechnic University,

the research explores the conceptual dimensions of the metaverse and its profound disruptions

to tourist behavior, experience, and the domains of tourism management and marketing. The

findings provide valuable insights into the challenges and threats posed by the metaverse in the

tourism industry, paving the way for a comprehensive research agenda. This resource

significantly contributes to our group's exploration of disruptive technologies.

Research on Disruptive Technologies - Arielle Dawn E. Alvarez

Disruptive Technologies

An invention classified as disruptive technology is one that fundamentally changes how customers, markets, or companies function. Disruptive technologies have the potential to reshape economies, redefine business models, and revolutionize the way we live and work. It can revolutionize various sectors, such as transportation, healthcare, and communication. A

great example of disruptive technology in today's era includes ride-sharing applications, GPS

systems, e-commerce, and online news sources. Way back then, television, electricity, and cars were also classified as disruptive technology.

Resource:

Smith, T. (2022, April). Disruptive Technology: Definition, Example, and How to Invest. Investopedia.

Retrieved from:

https://www.investopedia.com/terms/d/disruptive-technology.asp#:~:text=Disruptive%20technology%20is%20an%20innovation,attributes%20that%20are%20recognizably%20superior

Challenges in Establishing Smart Cities in the Philippines - Mark Kristian Angelo B. Andam

1. Transparency & Data Privacy:

A pivotal challenge that surfaces in the intricate landscape of implementing smart cities in the Philippines revolves around the imperative need for transparency and the safeguarding of data privacy (*Angelidou*, 2014). The expansive utilization of technology and the inherent data collection processes necessitate the establishment of robust policies and comprehensive frameworks to ensure the secure handling of citizens' information, thereby fostering and maintaining a high level of public trust.

2. Lack of Capacity to Implement Smart City Initiatives:

A formidable impediment confronting the Philippine smart city endeavors lies in the financial constraints faced by many local government units (LGUs), impeding their capacity to upgrade critical ICT infrastructure (Author, Year). The scarcity of financial resources not only impedes the realization of smart city initiatives but also compromises the ability to acquire accurate data, keep abreast of rapid technological advancements, and fortify cybersecurity measures, thus posing a multifaceted challenge to the holistic success of these initiatives.

3. Social Inclusivity:

Delving deeper into the complex tapestry of challenges, the pursuit of social inclusivity within the ambit of smart city initiatives emerges as a multifaceted conundrum (Author, Year). Achieving this inclusivity entails ensuring that the benefits of technological advancements reach all echelons of society, including marginalized communities. Addressing the digital divide and ensuring universal accessibility stand as pivotal imperatives, underscoring the paramount importance of inclusivity in the overarching success of smart city programs.

Advantages of Establishing Smart Cities in the Philippines:

1. More effective, data-driven decision-making:

 At the crux of the advantages emanating from the establishment of smart cities lies the capacity for more effective, data-driven decision-making (Simeon, 2022).
 The integration of data analytics facilitates nuanced insights into various facets of governance, infrastructure, and public services, thereby enhancing the decision-making prowess of city administrators.

2. Enhanced citizen and government engagement:

Another salient advantage inherent in smart city initiatives manifests in the realm
of enhanced citizen and government engagement (*Angelidou*, 2014). By
leveraging digital platforms, these initiatives foster heightened communication
channels, augmenting citizen participation in civic activities and fortifying the
bond between the populace and governmental entities.

3. Safer communities and reduced environmental footprint:

 The implementation of smart technologies converges towards fostering safer communities and a diminished environmental footprint (*Simeon, 2022*). Real-time monitoring, disaster risk reduction strategies, and resource-efficient practices collectively contribute to bolstering public safety and sustainability, painting a picture of a progressive urban landscape.

Smart Cities in the Philippines (Case Study: Baguio):

• Smart Security System:

 Exemplifying the integration of advanced technologies, Baguio's Smart Security System utilizes Al-enabled cameras and environmental sensors, culminating in an elevated standard of public safety through enhanced surveillance and risk mitigation measures (Development Academy of the Philippines, 2023).

• Smart Emergency Response System:

 The bedrock of quick decision-making during emergencies is laid by Baguio's Smart Emergency Response System, which harnesses real-time data analysis to orchestrate swift and effective responses, ensuring not only the safety of the public but also fostering an environment of resilience (Development Academy of the Philippines, 2023).

• E-Government System and E-Business Infrastructure:

 The intricate tapestry of governance is woven with digital threads as Baguio's E-Government System and E-Business Infrastructure contribute to the enhancement of administrative processes and the facilitation of digital business operations, underscoring the city's commitment to technological advancement (Development Academy of the Philippines, 2023).

• Smart Tourism:

 Embarking on the frontiers of innovation, Baguio's Smart Tourism initiatives utilize data analytics and artificial intelligence to reimagine and streamline tourism management, marking a paradigm shift in how cities can harness technology for economic growth and visitor satisfaction (Development Academy of the Philippines, 2023).

• Environment Management:

 The commitment to environmental preservation takes center stage as Baguio integrates technology into its Environment Management initiatives, utilizing real-time data and analytics to monitor and safeguard the city's ecological well-being (Development Academy of the Philippines, 2023).

• Smart Transportation:

 Revolutionizing the urban mobility landscape, Baguio's Smart Transportation systems deploy intelligent technologies for efficient traffic control, marking a departure from conventional approaches and embracing a futuristic vision for urban mobility (Development Academy of the Philippines, 2023).

• Smart Healthcare Monitoring System:

 The intersection of technology and healthcare is realized through Baguio's Smart Healthcare Monitoring System, exemplifying how digital innovations can be harnessed to monitor and manage healthcare services, thereby contributing to the overall well-being of the city's residents (Development Academy of the Philippines, 2023).

Philippine Smart City Initiatives (General Overview):

ASEAN Smart Cities Network (ASCN):

Unveiling a collaborative platform, the ASEAN Smart Cities Network (ASCN)
emerges as a testament to the concerted efforts of cities across the region,
including Manila, Cebu City, and Davao City in the Philippines (Author, Year).
This collaborative network, established in 2018, serves as a nexus where cities
from the 10 ASEAN Member States converge to collectively work towards the
common goal of smart and sustainable urban development.

New Clark City:

 Positioned as the harbinger of innovation, New Clark City, a project spearheaded by the Bases Conversion and Development Authority (BCDA) and various private sector entities, aspires to be the country's inaugural smart, resilient, and green metropolis (Author, Year). A vision encapsulated in sustainability, renewable energy, ICT, estate management, transportation, tourism, and smart city technologies, among other facets, underscores the transformative potential of this ambitious endeavor.

• Challenges Highlighted by PIDS:

 A poignant exploration of the challenges highlighted by the Philippine Institute for Development Studies (PIDS) unveils a landscape where operational costs and the lack of interoperability stand out as formidable impediments (Simeon, 2022).
 The study underscores the imperative for local government units (LGUs) to fortify their ICT infrastructure continuously, emphasizing the need for ongoing upgrades to align with the rapid evolution of the technology industry.

In conclusion, the nascent yet promising landscape of smart cities in the Philippines presents a tableau where the advantages of enhanced decision-making, citizen engagement, and sustainability intertwine with the challenges of data privacy, financial constraints, and the imperative for social inclusivity. As the nation navigates this intricate path, collaborative efforts involving local and national governments, private sectors, and communities emerge as the linchpin for the sustained and inclusive development of smart cities, ensuring a progressive trajectory in an era defined by technological innovation.

Angelidou, M. (2014). Defining smart city: A conceptual framework for classification. In Smart City 360° (pp. 9-24). Springer.

https://www.researchgate.net/publication/271130694_Defining_Smart_City_A_Conceptual_Framework_Based_on_Keyword_Analysis_

Department of Science and Technology. (2021). Smart Cities in the Philippines: An Ecosystem Framework.

https://pcieerd.dost.gov.ph/images/pdf/2021/roadmaps/DOST%20Smarter%20City%20Framework_Final.pdf

Development Academy of the Philippines. (2023). Baguio Smart City: Leveraging Data Analytics and AI for Good Governance.

https://coe-psp.dap.edu.ph/compendium-innovation/the-baguio-smart-city-project-advancing-data-a-analytics-driven-governance/

Simeon, J. (2022). Obstacles in Developing Smart Cities in the Philippines: Insights from PIDS Study. Journal of Urban Technology.

https://www.pids.gov.ph/details/challenges-remain-in-developing-smart-cities-in-philippines

SITEMAP

Sample: https://2020.internethealthreport.org/

HOMEPAGE

- Title Board: "Smart Cities: Digital Solutions for a Sustainable, Connected, and More Livable Future"
- Brief Description

<u>Pages</u>	<u>Status</u>	Codes	Notes
Homepage	In progress •	□ File	
What Is A Smart City?	In progress •	D File	
Smart City Growth Forecast	In progress •	□ File	
Spotlights/Challenges	Not started •	D File	
About	Not started •	□ File	

At A Glance: WHAT IS A SMART CITY?

- World Reimagined: Smart City Fundamentals
 - o Background of Smart City's emergence as an urban problem-solving solution
 - Smart cities as a system
- Smart City Solutions & Technologies
 - o Define services
 - o Explain smart city technologies and solutions: infrastructure, data, service
 - Applying these solutions to the Philippines (DOST)
 - Smart city implementation

At A Glance: SMART CITY GROWTH FORECAST

• Resource/Dataset: https://www.nextmsc.com/report/smart-cities-market

SPOTLIGHTS: CHALLENGES

- Transparency & Data Privacy (Sustainable)
- Social Inclusivity (Connected)
- Lack of Capacity to Implement Smart City Initiatives (Livable)

ABOUT

Categories and Subcategories

- 1. Home Page:
 - a. Welcome Message: Brief Introduction to the group project.
 - **b.** Overview of Smart Cities and Disruptive Technologies: Summarize the main topic and its significance.

2. About Us:

- a. Group Members: Display the list of members and their roles.
- **b. Project Details:** Include the topic, approved title, and a short description.

3. Report Section:

a. Disruptive Technology:

i. Provide a brief overview of disruptive technology.

b. Smart City:

- i. Include information on what defines a smart city.
- ii. How are disruptive technologies implemented in smart cities
 - 1. Summarize Bemmygail's findings on the metaverse as a disruptive technology in tourism.
- **c.** Review of Related Literature & Studies: Highlight the key points from the literature review.

i. Challenges in Establishing Smart Cities in the Philippines

- 1. Simeon article
- Summarize Mekyla's findings on ASEAN Smart Cities and New Clark City. (Lamentillo article)

3.

ii. Smart Cities in The Philippines

- 1. Current Initiatives: Summarize ongoing smart city projects.
 - a. Baguio City Smart City Project
 - **b.** New Clark City
 - c. Makati City
 - **d.** (can add more examples of smart cities in the ph)

4. Contact Us:

- a. Individual Contact Information: Provide contact details for each group member.
- b. **Feedback Form:** Include a form for visitors to provide feedback. *–maybe not needed na ito?*

5. References:

a. **List of References:** Provide a comprehensive list of all references used in the project. (We already have them here)

6. Learn more

a. Link references or resources that we may not have used- relevant links and resources, etc.

SITE DESIGN

CANVA:

https://www.canva.com/design/DAF2o4FJumM/1p1S4jg36_jFAFHOA5pn1g/edit?utm_content=DAF2o4FJumM&utm_campaign=designshare&utm_medium=link2&utm_source=sharebutton

Typefaces

Title: Times New Roman

Paragraph Text: Arial Subtitle: Arial Italized

Title: Georgia

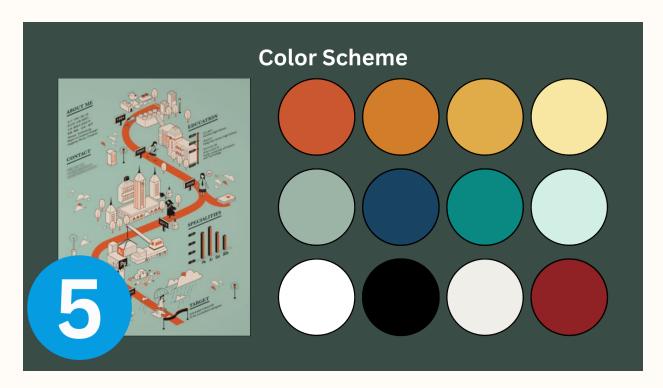
Paragraph Text: Verdana
Subtitle: Verdana Italized

Title: League Spartan

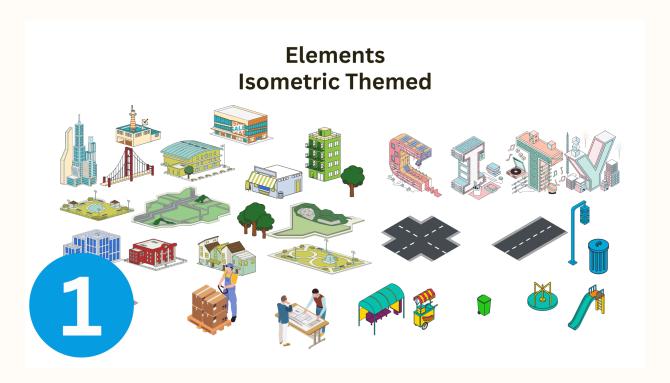
Paragraph Text: Libre Baskerville

Subtitle: Libre Baskerville

Group Decision: League Spartan Font Family



Group Decision on Color Scheme: Group 5

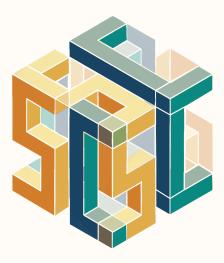


Group Decision on Elements: Isometric

Isometric Logo

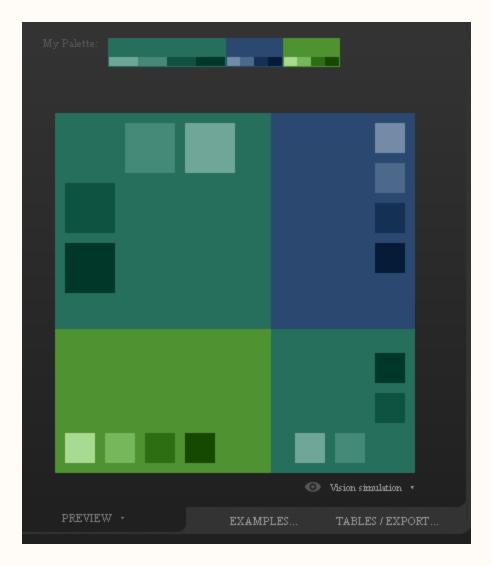
SC stands for Smart Cities

https://drive.google.com/file/d/1zOwfBOCwNbfHmsnJnDPD66xlW5otlQWT/view?usp=sharing



Bemmygail Abanilla

Color Palette:



Blue and Green:

- Blue represents trust, professionalism, and technology.
- Green symbolizes innovation, sustainability, and growth.
- This combination is often associated with environmental and tech-related themes.

Web Layout applying the color palette in White Page



Typography

Heading Font:

- Font Name: Montserrat
- Characteristics: Montserrat is a modern sans-serif font that is clean and easy to read. It provides a sleek and professional look, making it suitable for headings.

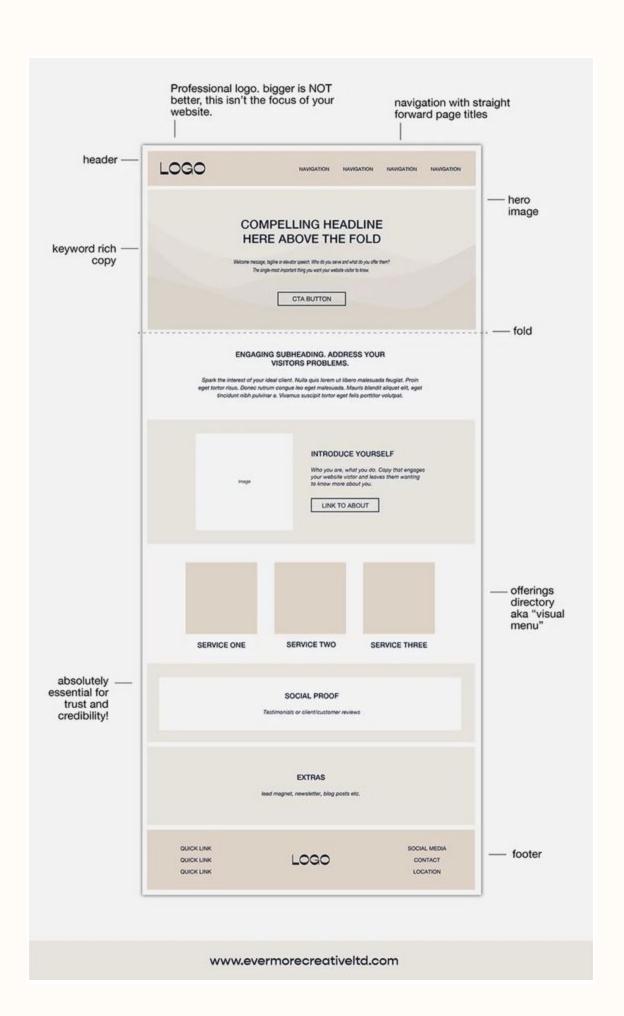
Body Font:

- Font Name: Open Sans
- Characteristics: Open Sans is a versatile sans-serif font with a neutral and friendly appearance. It offers good readability and works well for body text.

Example font sizes:

- Heading (H1): 28-36 pixels
- Subheadings (H2, H3): 24-30 pixels
- Body Text: 16-18 pixels

Layout Suggestion - Arielle



Color palette:



Typography:

Arrangement of the topics

Title Page: Smart City

Distrupti

What is a Smart City?

With the fourth industrial revolution of the present, characterized by the Internet, digitalization, and the obscuring distinctions between physical and virtual worlds, industries everywhere are disrupted (Majumdar, et al., 2018). Local government units have no exemption. To keep up with these times of rapid technological advancements, cities in particular, implement various disruptive technologies in soft and hard infrastructures, hoping to improve the quality of life— from governance, economy, tourism, and recreation, to social welfare. These are smart cities, cities that strategically capitalize on Information Communication Technology (ICT) aiming for success, efficiency, and competitiveness in various socioeconomic aspects (Angelidou, 2014). Angelidou (2014) elaborates that the term "smart city" is considered ambiguous, as the preconceived notion that technological implementation immediately makes a city smart and the biased usage of the word "smart" perpetuates misunderstanding and ambiguity of what smart cities are. Even so, much literature shows that the smart city concept describes a myriad of heterogeneous solutions and city programs that employ and are mainly driven by various technologies, especially ICTs which connect different entities to provide digital services, to reach a set of goals (Dameri, 2013).

Now that we know what a smart city is, it is crucial to see how disruptive technologies interweave with the makings of a smart city. According to the Department of Science and Technology (2021), the smart city, as an ecosystem, provides various services that assure and enable information exchange, analysis, and statistics for the efficient usage of resources. Technology facilitates just that. With technology, the exchange, analysis, and statistical-making of information are done efficiently. And because information is shared and processed more quickly and efficiently, societal operations become more productive. ICTs and digitalization, in particular, update old processes with new and convenient ways for consumers.

The DOST (2021) identifies sustainable, efficient, and productive economic opportunity, education, environmental quality and natural resource conservation, finance, governance, health, safety and security, infrastructure, transportation, urban planning, and empowerment and inclusivity as indicators of a smarter city. Facilitated and supported by the effective implementation of disruptive technologies, different sectors and citizens can inch forward toward

reaching these indicators, becoming smarter cities.