Name(s)_____ Period _____ Date _____

Project Guide - Internet Dilemmas

Background

You are the Chief Technology Advisor for a candidate running for elected office. Your candidate is relying on you to help inform her about important technological dilemmas and come up with good policy ideas to address them. For this project, you'll investigate a social dilemma related to the Internet prepare a report summarizing your findings and make a policy recommendation for your candidate.

Step 1 - Pick Your Dilemma

Net Neutrality	Internet Censorship	The Digital Divide
Background: Internet users love services like streaming movies, video chatting, or online gaming. All of this content needs to travel over the Internet, however, and the companies that build and maintain networks are complaining about the increased demands being placed on their networks. Your candidate is hearing more and more about a debate called "net neutrality" and would like a more informed opinion as part of her platform.	**Background:** While the Internet is used to share many useful services and information, there are growing concerns about the way that the Internet can be used to spread damaging information ranging from national secrets to calls for violence. Censoring this information may provide some people with increased security, but potentially risks free speech and the safety of social and political activists. Your candidate would like to have a policy that balances these two concerns in a way that makes sense for our digital age.	**Background: While technology is increasingly integrated into daily life, there are still many who lack access to the Internet or digital technology. In rural areas, there are challenges in building networks to connect geographically sparse populations, but even in cities some groups or areas have relatively less access to the Internet or knowledge of how to use it. Your candidate is worried that while technology is bringing social and economic benefits to many, others are being left behind.**
Core Question: When and how should internet service providers be allowed to treat some kinds of internet traffic differently from others?	**Core Question:** When and how should the government be allowed to censor or block internet traffic, if at all?	**Core Question: When and how should resources be invested to close gaps between those who do and don't use the Internet?**
Impacted Groups • Internet Service Providers (ISPs) • Internet Content Provider • Everyday internet Users	**Impacted Groups** • Everyday internet user • Intelligence Agencies • Political activists	**Impacted Groups** • **Those lacking internet access** • **Internet Service Providers (ISPs)** • **Schools and libraries**
Sources • "How the end of net neutrality could change the internet" (video): link • "'Net Neutrality' is ending. Here's how your internet could change" (article): link • "Wikipedia - Net Neutrality": link	**Sources** • "Free Speech Or Hate Speech: When Does Online Hate Speech Become A Real Threat?" (audio article): link • "Internet Censorship Explained" (video): link • Wikipedia - Internet Censorship: link	**Sources** • **"Eliminating the Digital Divide" (video): link** • **"Internet/Broadband Fact Sheet" (article): link** • **Wikipedia - the Digital Divide: link**

Step 2 - Review the One-Pager and Rubric

Review the one-pager template and rubric to make sure you understand what you'll be responsible for creating for this project and how it'll be evaluated.

Step 3 - Review the Concept Bank

This concept bank includes the key terms and concepts covered in this unit. Quickly review them before reading your articles so that you'll be ready to identify them in your articles. You can also refer to these as you complete your one-pager.

Protocols / Layers Physical internet, IP, TCP, UDP, HTTP, DNS	**Networks** Fiber optic cable, copper wire, wifi, router, path, direct connection, bandwidth	**Packets and Routing** Packet metadata, IP addresses, dynamic routing,	**World Wide Web** Web pages, browsers, servers, domain, world wide web	**Internet Principles** Redundancy, fault tolerance, scalability, open protocols

Step 4 - Review Your Sources

Review the three sources provided or additional ones you find online. For each source take notes on instances when your impacted groups are mentioned or technical details are explained.

Source	Notes on Impacted Groups	Notes on Technical Details
SciTech Now. "SciTech Now | Eliminating the Digital Divide | Season 4 | Episode 14." Www.pbs.org, 29 Jan. 2018, www.pbs.org/video/eliminating-digital-divide-ihdcln/.	The impacted libraries and schools are the subjects of discussion in this video. It discusses the disadvantages that high-tech education can impose on low-income rural students. Certain ISPs refused to provide internet services in particular regions, making it difficult for communities and schools to connect to the web.	Buses containing Wi-Fi routers were parked in areas where they were required. Students were granted access to browsers, web pages, and the World Wide Web as a result of the bus-mounted router solution.
Pew Research Center. "Internet/Broadband Fact Sheet." Pew Research Center: Internet, Science & Tech, Pew Research Center, 7 Apr. 2021, www.pewresearch.org/internet/fact-sheet/internet-broadband/.	The enrollment of high school students has experienced a substantial surge over the past eighteen years. 71% in 2018 compared to 249% in 2000 (educational institutions and libraries). The majority of individuals without internet access are black and Hispanic. While these figures are on the rise, they remain lower than the white adult population of 9% in 2018. In 2015, residential broadband usage had also increased gradually to 70%. Additionally, the proportion of residences equipped with broadband has increased. Nevertheless, individuals aged 55 and above continue to lag significantly behind other age cohorts, thereby contributing to the digital divide. It also gradually develops a reliance on electronic devices and primarily affects younger age groups, such as adolescents and young adults.	Broadband internet provides access to the web at a significantly faster rate than dial-up. Utilize a router to transmit and receive data between your home and the Internet. The router utilizes the internet connection in question. Wi-Fi is the wireless link between your devices and the router.

“Digital Divide.” Wikipedia, Wikimedia Foundation, 27 Jan. 2019, en.wikipedia.org/wiki/Digital_divide.	Those without internet access are also those with limited financial resources to spend on the web, primarily due to an economic disparity. Additionally, a racial divide exists. Due to their lack of financial resources, individuals and communities of color are adversely impacted by the digital age, as they are unable to fully utilize the internet and its capabilities. Also, educational institutions situated in impoverished communities and areas lack the same level of internet access as those in Los Angeles or New York. The digital divide is the disparity between those who have advantages and those who do not in the digital age. An important contributor to the digital divide is the age difference, as older individuals are more resistant to change and unwilling to adopt the internet.	In order to bridge the divide, internet connectivity must be readily available, reasonably priced, and equipped with user-friendly devices that support high-speed internet. An additional requirement is technical support and instruction in digital literacy. Web pages and browsers should be terms that users are familiar with. In order for the concept to be practical, they must also have a comprehension of Wi-Fi and direct connections.
Signe, Landry. “Fixing the Global Digital Divide and Digital Access Gap.” Brookings, 5 July 2023, www.brookings.edu/articles/fixing-the-global-digital-divide-and-digital-access-gap/.	The passage highlights the pandemic's impact on the digital divide, emphasizing increased internet usage yet acknowledging persistent global inequities. It underscores the complex nature of digital disparities, spanning geographical, gender, age, and urban-rural divides, particularly in mobile device and internet access. Beyond connectivity, it addresses broader facets like infrastructure and skills. The United Nations ITU's classification of connectivity types reflects the multifaceted approach to bridging this gap. The Fourth Industrial Revolution's influence on African nations, detailed in 'Africa's Fourth Industrial Revolution,' accentuates disparities in investments, infrastructure, and education. It notes intranational divisions in developing regions and gaps in researching digital divides' effects on structural transformations. It emphasizes the need for coordinated global efforts, inclusive decision-making, and lists initiatives by private and international entities. Lastly, it advocates increased international cooperation, exemplifying the African Union's Digital Transformation Strategy linking digital divides to national objectives	Internet Usage Increase: In the aftermath of the pandemic, an unparalleled transition occurred toward digital engagements, leading to a global upsurge in internet usage. In 2020, 466 million individuals first gained access to the internet. Global Internet Access Growth: Between 2021 and 2022, the proportion of Internet users worldwide and Internet penetration increased by 7% and 6%, respectively. Disparities in Connectivity to the Internet: Geographic Variations: Disparities in internet penetration among regions are evident, with Asia (61%) and Africa (40%), in contrast to Europe (89%), the Americas (over 80%), and the Arab States (70%) where rates are comparatively higher. Demographic Gaps: Deficits have been identified in relation to age, gender, and urban-rural populations. As an illustration, 264 million fewer women than men had Internet access. Younger demographics exhibited greater levels of connectivity, as 75% of the global youth were online in contrast to 65% of the remaining population.
Trotter, Andrew. "Minorities Still Face Digital Divide." Education Week, vol. 26, no. 03, 13 Sept. 2006, p. 14. Gale In Context: Opposing Viewpoints,	Digital Divide Among Minority Groups: Usage Disparities: White students have higher rates of computer and internet usage compared to minority students. Statistics: Computer Use: 93% white, 86% black, 86% Hispanic, 91% Asian-American. Internet Use: Disparities between white students (67%) and African-American (47%),	Technical Disparities Among Minority Groups: Computer Use: Discrepancies exist between white students (93%), black students (86%), Hispanic students (86%), and Asian-American students (91%). Internet Use: Disparities persist between white students (67%) and African-American (47%),

link.gale.com/apps/doc/A215125178/OVIC?u=jama76847&sid=bookmark-OVIC&xid=fa09b8d0. Accessed 21 Nov. 2023.	Hispanic (44%), and Asian-American (58%) students. Source: U.S. Census Bureau's Current Population Survey (October 2003) involving 56,000 households. Impact on Education and Jobs: Equity Concerns: Digital divide affects access to education beyond K-12 and employment opportunities. Statement by Don Knezek: CEO of International Society for Technology in Education, emphasizing the wider implications of the digital gap. Disability and Technology Use: Usage Disparity: Students with disabilities have lower rates of computer (82%) and internet (49%) usage compared to non-disabled peers (91% computer, 61% internet). Role of Schools in Bridging Divide: Schools as Equalizers: Report highlights schools' role in reducing the digital gap, especially for disadvantaged students who often access the internet only at school. Statistics: Majority of students in poverty who access the internet at only one location do so at school. Progress in Gender Divide: Equalizing Trends: Disappearance of gender gap in computer and internet usage. Statistics: Equal percentages of male and female students (91%) use computers; slight edge for girls (61%) in internet use compared to boys (58%). Limitations and Areas for Further Study: Unaddressed Aspects: Quality of technology experiences, convenience of access, time spent on technology remain unexplored in the census data. Future Studies: Suggested areas for deeper investigation in subsequent research.	Hispanic (44%), and Asian-American (58%) students. Impact on Education and Jobs:Equity Implications: Digital divide affects access to further education and job opportunities.Statement by Don Knezek: Emphasizes the wider implications of the digital gap for future prospects. Disability and Technology Usage:Usage Disparity: Students with disabilities exhibit lower rates of computer (82%) and internet (49%) usage compared to non-disabled peers (91% computer, 61% internet). Schools' Role in Bridging the Divide:Equalizing Role of Schools: Schools serve as significant equalizers in reducing the digital gap, especially for disadvantaged students who predominantly access the internet only within the school setting. Progress in Gender Divide:Gender Equality in Technical Usage: No significant gender gap observed in computer use; slight difference in internet use, with girls (61%) slightly surpassing boys (58%).
"Helping minorities bridge 'digital divide'." Christian Science Monitor, 29 July 1999, p. 3. Gale In Context: Opposing	Demographic Disparities: Access Challenges: Minority communities face limited or no access to computers and the internet, leading to a growing digital divide. Clubhouse Initiatives: Programs like the Computer Clubhouse aim to bring in children, particularly minorities, who lack access to	Digital Access Disparities: Demographic Statistics: Minority communities, including African-Americans and Hispanics, face limited access to computers and the internet compared to white individuals.

Viewpoints, link.gale.com/apps/doc/A297963551/OVIC?u=jama76847&sid=bookmark-OVIC&xid=658f77b1. Accessed 27 Nov. 2023.	technology. National Initiatives to Address Divide: Partnerships and Programs: AT&T and NAACP: Plan to build technology centers in cities to bridge the technology gap. Information-technology Companies: Collaborating to develop educational programs, aiming to nurture a pool of qualified workers from high schools. Cultural Adaptation of Technology: Bilingual Web Platforms: Websites like Oyeme.com cater to Latinos by highlighting relevant news and interviews, aiming to facilitate internet access. Commerce Department Study Findings: Disparity Confirmation: Study reveals disparities in internet access, with white people having greater access compared to black or Hispanic individuals. Importance of Community Involvement: Local Empowerment: Emphasizes the importance of allowing communities to decide how they use technology rather than imposing ideas. Community Endorsement: Advocates for driving home the benefits of computer literacy through trusted community figures. Success Stories and Educational Impact: Transformational Impact: Stories like Marlon Orozco's transformation from fear of computers to managing a website about Guatemala's geography and culture. Clubhouse's Significance: Attributes the clubhouse's success to professional-level equipment, supportive mentors, and a relaxed environment. Opportunities for Skill Development: Professional Engagement: Local companies offer internships and jobs to clubhouse members, recognizing their emerging skills. Global Expansion: Plans for setting up similar centers worldwide based on the success of the clubhouse. Online Initiatives and Cultural Identity: Emergence of Ethnic-focused Internet Sites: Websites targeting minority groups, aiming to tap into untapped markets and cultural ties. Value for Cultural Connectivity: Internet as a medium to preserve and disseminate cultural heritage among minority communities. Mixed Reactions within Minority Communities:	Commerce Department Study: Findings reveal discrepancies in internet access, highlighting disparities between racial groups. National Initiatives to Bridge the Divide: Technology Centers: AT&T and NAACP plan to establish 20 technology centers in cities, aiming to mitigate the digital gap. Educational Collaborations: Information technology companies partner with educational institutions like the National Academy Foundation to develop programs preparing high school students for IT careers. Cultural Adaptation and Outreach: Bilingual Web Platforms: Sites like Oyeme.com cater to Latino communities by providing culturally relevant content, easing their entry into the digital space. Community Involvement and Advocacy: Local Empowerment: Encourages allowing communities to dictate their technology usage, focusing on empowerment over imposition. Community Endorsement: Emphasizes the significance of influential community figures endorsing the benefits of computer literacy. Educational Impact and Case Studies: Success Stories: Marlon Orozco's transformation from computer fear to managing a cultural website demonstrates the impact of technology education. Clubhouse's Educational Significance: Attributes success to access to professional-level equipment, supportive mentors, and an open learning environment. Skill Development and Professional Engagement: Internship Opportunities: Local companies recognize emerging skills among clubhouse members, offering internships and jobs.

	Resistance and Acceptance: Some resistance within communities due to concerns about cultural erosion, while others embrace the internet for communication and cultural preservation.	Global Expansion: Plans to replicate successful clubhouse models worldwide to further spread technological literacy. Online Initiatives and Cultural Preservation:Ethnic-Focused Online Platforms: Development of websites targeting minority groups to address untapped markets and cultural connections.

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Internet Dilemma Policy One Pager

To complete this one pager fill in each of the sections below. All text in italics is included to explain how to fill in the one-pager and can be deleted before you submit.

Core Question

When and how should resources be invested to close gaps between those who do and don't use the Internet?

Impacted Groups

Fill in the table below with your Impacted Groups. You may optionally add new groups or split one of the ones assigned into smaller subgroups if it will help better explain who's involved in the dilemma.

Impacted Group and Description	Interests, Benefits, and Harms
Group 1: Write the name of the group and provide a brief description/examples of who they are *Those lacking internet access* *These are individuals who are financially constrained in their online spending. Primarily due to an economic disparity. Additionally, many countries worldwide, including Chad, Malawi, and South Sudan, have limited internet access, and the majority of the population there does not have internet access.*	*Explain the interests of this group, as well as ways that they could benefit or be harmed because of the dilemma.* *These individuals stand to gain from the dilemma due to their possession of internet connectivity and electronic devices. These can assist them in establishing connections with the global community and acquiring future-beneficial skills.* *Individuals in this category do not have access to the internet; however, it is preferable that they find a way to acquire it in order to avoid falling behind in the contemporary digital era. Additionally, it might impart to*

	them some insights regarding the optimal utilization of technology that would be to their benefit. *They might be harmed as a result of the dilemma, as tree care could be expensive. Internet access may require payment, which may be prohibitive for many families due to financial constraints. Additionally, individuals who do not have access to information would be left behind as the entire world undergoes a transformation.*
Group 2: Write the name of the group and provide a brief description/examples of who they are *Internet Service Providers (ISPs)* *The IPS is an organization that offers internet access and utilization-related services. They may be privately owned, commercial, community-owned, or non-profit (Xfinity, Spectrum, Verizon, AT&T).*	*Explain the interests of this group, as well as ways that they could benefit or be harmed because of the dilemma.* *The objective of internet service providers is to establish hotspots in order to facilitate widespread internet access. Additionally, they make an effort to provide affordable internet access to low-income households.* *The potential advantages of this dilemma for IPS include the opportunity to attempt to bridge the digital divide and an increase in customer base.* *Potentially detrimental would be the reduction in revenue that some communities might incur as a result of the decreased cost of their networks.*
Group 3: Write the name of the group and provide a brief description/examples of who they are *Schools and libraries* *Libraries and schools are significant contributors to the digital divide, as many schools lack internet access that would otherwise facilitate students' skill development.* *Examples include schools located in low-income areas that may lack the financial means or necessary resources to provide internet access for their students.*	*Explain the interests of this group, as well as ways that they could benefit or be harmed because of the dilemma.* *Internet access is desired by libraries and schools so that a greater number of students can develop skills and gain access to new materials that are not covered in textbooks.* *Closing the digital divide would enable numerous students to acquire knowledge about the internet, utilize it to enhance their abilities, and discover novel opportunities; this is one of the advantages of this dilemma. Internet usage may motivate them to strive for greater accomplishments.* *The digital divide can cause damage to libraries and schools, as it causes a significant number of students to fall behind in the digital age. Comparatively, they would be unable to surpass their counterparts in other regions or states. It may potentially impede their capacity for learning as well.*

Group 4: Write the name of the group and provide a brief description/examples of who they are *Ethnic groups/minorities that experience racism*	*The effects of the digital divide on racialized ethnic groups are complex. In addition to exacerbating socioeconomic gaps and maintaining structural injustices, restricted access denies marginalized people access to essential resources, opportunities, and information, further dividing society. However, closing this gap gives marginalized groups access to economic possibilities, educational materials, and advocacy platforms; this could lead to a reduction in economic inequities and amplification of their voices in public debate. However, unequal access can result in issues with monitoring, digital redlining, and striking a careful balance between assimilation and cultural preservation. In order to promote justice, strengthen these communities, and remove structural obstacles that support racial disparity in the digital age, it is imperative that this gap be closed.*

Technical Background

Explain the technical background necessary to understand the problem. Include:

- *Background on layers/protocols/principles of the Internet necessary to understand the dilemma*
- *Use the concept bank on the first page to help brainstorm ideas to include. A strong description will reference several of these concepts*
- *Make sure your descriptions are approachable for your candidate, who does not have as strong of a background in the way the Internet works*
- *This can be completed in bullets*

The technical knowledge required to comprehend the issue pertains to categories on the World Wide Web and networks. The digital divide, which leaves a great number of individuals behind in the new digital age, is the dilemma. This includes individuals of every race and age group. We must prioritize students and young children residing in low-income areas if we are to succeed in bridging the digital divide. We ought to draw motivation from the video titled "Eliminating the Digital Divide" in order to confront this issue. We must first gain an understanding of what Wi-Fi and the internet entail and then disseminate this knowledge. Routing devices facilitate the transfer of data between two distinct networks. A residential router, for instance, can link local devices to a cable modem, which in turn connects the residence to the Internet service provider. Clearly, we require funds or a budget in order to purchase routers. The initial phase in resolving and comprehending the issue is as follows. We must communicate and establish relationships with ISPs so that they can provide low-income households and communities with free or low-cost services. They can supply Wi-Fi to a large number of locations and facilitate internet access for some children.-Additionally, students and children should be instructed in the use of browsers, which are applications that enable users to view resources. It is crucial that children have access to the information they require to complete their homework assignments or conduct research on specific subjects. The infrastructure of information and the network software used to access it constitute the World Wide Web. Therefore, it contains user-friendly web pages and a variety of data types, allowing them to obtain the information they require. Web servers fulfill requests for web pages, while web browsers retrieve and exhibit those pages. Gaining knowledge of the technical underpinnings is beneficial in order to comprehend how the internet and devices function in presenting information. Educating adults and students about the Internet will enable them to develop an awareness of it and encourage further exploration, potentially benefiting them in the long run. It also strengthens the persuasiveness of our campaign because we are aware of the information we wish to promote.

Recommended Policy Solution

Recommend what policy or solution your candidate should advocate for. Your solution could be a law that should be passed or repealed, a government policy, or a technological solution your candidate should promote.

Recommended Policy: *In at most two sentences summarize the solution/action your candidate should support*

Bridging the digital divide for ethnic groups facing racism involves collaborative efforts among schools, communities,

and Internet Service Providers (ISPs). By ensuring universal access to computers and iPads in schools and partnering with local organizations to offer widespread internet access and parental guidance, this initiative aims to empower marginalized communities. Over a decade, it aims to serve as a national model, providing essential resources and opportunities to combat technological inequality among these minorities.

Pros / Who Benefits	Cons / Who is Harmed
Students will be able to get more access to the internet **It will help with the literacy rates and graduation rates across the country** **It will help close the digital divide** **It will lead to economic development within the country since businesses might be attracted near a high school that has internet.** **It will allow ISPs to gain more customers and have bigger projects.** **It leads to intellectual advancement It will also lead to technological advancement because there will be new creative ways of how** **to let students gain access to the internet which might help other industries or other situations. The best way to solve this problem is to start with children since they are the ones who are impacted the most and they will be able to have a normal school life in the new digital age** **Community Collaboration: Partnerships with local organizations foster community involvement, potentially creating a supportive environment for technological literacy and empowerment.** **Long-term Vision: A decade-long plan to become a national model aims for sustainable change, striving to address systemic disparities in technological access among ethnic minorities facing racism.**	**ISPs might have to lower their prices for schools and libraries** **ISPs might not provide their services to certain areas which would mean we need to create new ideas on how to give children access to the Internet.** **It might be challenging to get communities to participate because they might not be interested. (But it's not impossible!)** **It could be expensive for the country to fund all the devices, routers, and the internet It might be a very big goal to reach within 10 years and the plans might have to be pushed back** **Financial Burden: Implementing widespread access to computers, iPads, and internet infrastructure in schools may require significant financial investment, potentially straining budgets.** **Technology Obsolescence: Rapid technological advancements might render the hardware or infrastructure outdated before the end of the proposed decade, necessitating continual updates or upgrades.** **Dependency on Partnerships: The success of the policy relies on sustained collaboration between schools, ISPs, and community organizations. Any disruptions or disagreements might hinder its effectiveness.**

Category	Extensive Evidence	Convincing Evidence	Limited Evidence	No Evidence
The completed research guide demonstrates the use of multiple sources	The research guide indicates referencing three or more sources. provided are referenced	All three provided sources are referenced	Only one or two sources were referenced	No evidence that sources were used
Interests, benefits, and harms of all impacted groups are clearly explained	Interests, benefits, and harms for all groups, including possibly additional groups beyond the required three, are provided.	The interests, benefits, and harms of most groups are provided and accurate.	Interests, benefits, and harms are either limited, inaccurate, or incomplete.	No description of the impacts on different groups
Technical details reflect an accurate and detailed understanding of the internet	Extensive technical details are provided demonstrating a broad understanding of how the Internet works	Many technical details are provided that accurately reflect how the Internet works	Few technical details were provided. Some may be inaccurate.	No technical details provided
Technical details are clear and described for a non-technical audience	All technical details are clear and easily read by a non-technical audience	Most of the technical details provided can be understood by a non-technical audience	Many of the technical details provided are confusing to a non-technical audience	No technical details provided
A clear policy recommendation is provided that is justifiable based on other information in the one-pager	Policy recommendation is justifiable and clear based on information in both other sections of the one-pager	Policy recommendation is clear but some aspects may not build upon information elsewhere in the one-pager	Policy recommendation provided but is disconnected from other information in one-pager	No policy recommendation provided
Reasonable benefits and harms of the policy choice on different impacted groups are provided	Benefits and harms to all impacted groups are clearly explained	Benefits and harms to most impacted groups are clearly explained	Benefits and harms are limited or not tied to specific groups	No benefits or harms are provided