SYSTEMATIC LITERATURE REVIEW ON ETHICAL CONSIDERATION IN MULTIMEDIA PROFESSIONAL PRACTICES

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ABSTRACT

The rapid advancement in technologies provide the different method of presenting information to the audience in multimedia. However, this leads to the needs to review the current ethics challenges faced by the multimedia professional. This research aims to give insight in the ethical consideration including the challenges faced by the professionals and provide a guideline in ethic decision making by having a systematic literature review. Privacy issues, balance between realism and addiction and truthfulness of information are the ethical challenges faced by the multimedia professionals. Cooperation among the community and involvement of the audience in the development process are the guideline provided to minimize the risk of the ethics issues faced by them.

Keywords: *Multimedia, Ethics, Privacy, Immersive, ICT*

1. INTRODUCTION

Due to the rapid advancement in technologies especially in the 20th century, new opportunities are provided to the public and new challenges are approached at the same time [1]. Multimedia technologies have gone through evolution and information is created and shared in different ways. The advancement of Information and Communication Technology (ICT) enables the people to have interaction between each other in a digital way by using many platforms, such as augmented reality (AR) and virtual reality (VR) [2]. This let actions such as shopping, finding friends, transactions and many others can be done in digital technology. In fact, the term "onlife" was being introduced, such that the distinction between offline and online life is now blurred ([3]; [2]). The digital media was also affected, causing the transforming

of the way information is being transferred. Various professional practices that embed multimedia ranging from journalism and advertising to education and healthcare need to catch up with digital evolution. As the advancement and breakthroughs in technologies go on, so do the ethical complexities behind the technologies [4].

The widespread use of multimedia has a huge influence on social attitudes and user behavior. The power of multimedia to alter public opinion and decision making causes the need to have ethical consideration through the process of multimedia. As technologies advance, multimedia professionals such as journalists, designers and those who work in the digital entertainment industry face complex ethical dilemmas. Questions surrounding issues such as privacy invasion, cultural sensitivity and the responsible use of technologies demand clear

ethical guidelines. Establish this kind of guideline is not only a moral imperative but also it is essential for building trust between the professionals and the users in a long term.

In an era dominated by multimedia content, the ethical considerations surrounding the practices of professionals in fields such as journalism, digital entertainment, virtual reality (VR), and augmented reality (AR) are increasingly vital. As technology continues to advance and society becomes more reliant on multimedia platforms for information and entertainment, the need to understand and address ethical challenges becomes paramount. Despite this importance, there is a notable gap in comprehensive research that systematically explores the ethical dilemmas faced by multimedia professionals. This study aims to fill this gap by conducting a literature review focused on identifying and analyzing ethical issues across various multimedia fields. By shedding light on common ethical challenges and proposing guidelines for ethical conduct, this research seeks to not only enhance awareness of ethical considerations but also provide practical insights for professionals and stakeholders in the multimedia industry. Through this endeavor, the research endeavors to foster a culture of ethical responsibility and integrity in multimedia practices

A literature review has been done regarding the ethical issues faced by multimedia professionals. This article aims to have a literature review on the ethical considerations in multimedia professional practices and the structure of this article will be stated. Topic 1 provides an overview of the technology and ethics in multimedia. Topic 2 will be discussed briefly about the methodology and the scope of this article and the literature review. Next, the results of the literature review will be discussed in Topic 3. This includes the overall ethical challenges faced by professionals and the guidelines to overcome the challenges based on the articles reviewed. Topic 4 discusses the future works followed by Topic 5 research limitation. The last topic is Topic 6, which concludes the article.

2. METHODOLOGY AND SCOPE

The methodology for conducting the literature review on ethical considerations in multimedia professions involved several key steps, as outlined below:

Selection of Keywords: The initial step involved selecting appropriate keywords to conduct searches

related to ethics and multimedia. Keywords such as "ethics", "ethical issues", "ethical challenges", "ethics and morals", "multimedia", "media", "multimedia professional", "journalism", "digital entertainment", "VR", and "AR" were chosen to capture a comprehensive range of relevant literature.

Search Strategy: Google Scholar was chosen as the primary database for the literature search due to its extensive coverage of scholarly articles across various disciplines. Searches were conducted using combinations of the selected keywords, focusing on articles published within the past ten years, from 2014 to 2024.

Article Selection: Following the search, the retrieved articles were screened based on their relevance to the topic. A total of twenty-three articles were initially identified. Three articles that were found to be unrelated to the topic were excluded, resulting in a final selection of twenty articles for review.

Content Analysis: The selected articles were reviewed and analyzed to extract information on ethical issues encountered in multimedia professions, including VR, AR, XR, video games, and journalism. The findings from each article were synthesized and organized into a table format to facilitate comparison and discussion.

Discussion: The results of the literature review were discussed in detail, highlighting the various ethical challenges identified across different multimedia fields. The implications of these findings for future research and professional practice were also considered.

Twenty-three (23) articles were selected and three (3) of those were excluded from this research as they were unrelated to this topic. Twenty (20) articles related to the ethical issues in multimedia had been selected for review in this research in the end. The articles will cover some ethical issues in some fields including VR, AR, Extended Reality (XR), video games and journalism. The result of the literature review is written in table form and will be discussed in the next topic.

3. RESULT AND DISCUSSION

This topic will discuss the results of the literature review selected. This topic will be started with Table 1 which is the result of the literature review. Next, this topic will be separated into two subtopics. First, the ethical challenges and issues faced by multimedia professionals will be stated and discussed in the first part. Second, the guidelines whether is existing or recommended by

the researchers in order to overcome the issues discussed in the first part will be stated and discussed in here.

The ethical challenges faced by the multimedia professionals can be categorized into three topics, which are privacy issues, truthfulness in reporting the information and realism in virtual world.

Multimedia professionals and users are facing privacy issues in most areas that are covered in this research. The process of data collection is the major contribution to this issue. Due to technology, the VR and AR devices need to collect data such as biometric information of the user in order to let the application work. The biometric data of the user includes the eyes movement, motor movement, facial characteristics and many more, which are not commonly being collected by non-VR or AR applications [1]. Also, the camera used in the VR and AR devices will capture the surroundings and the worries about geographical information to be uploaded somewhere else rise ([5],[1]). Under this circumstance, the device will collect data continuously. In fact, the headset devices are "always on" for data collection and the user might not be aware of this [6]. The user may also not be aware of what data is collected by the devices. The continuous data collection will cause the reduction in self-censorship which is the intention opposed to the VR design which tends to let the user have fun in a rather isolated space physically [2].

Also, when dealing with the stories made, the balance between the realistic part of the story and personal privacy is often challenged by the designer [7]. If the designer blindly pursues the realism of the virtual world, then the designer might be in the trouble of exposing the personal information of the person related to the scene. However, if the realism level of the world is too low, the users might have a break from the virtual world and this also will cause harm to the users which will be discussed later on. One of the examples stated by [7] was the ethical issues when designing an immersive experience in a prison. The layout of the prison might get too detailed that one might use the application they designed to be used as a jailbreak reference. The uncertain objectives and boundaries caused by miscommunication between the production team will also breach personal privacy [8]. Additional information may be taken from the participants when designing a story telling and some information is sensitive especially about medical conditions. The process of collecting data may go far beyond the consent made by the participants or fulfilling the objectives of the project.

The source of the data is also related to privacy issues. As the data is uploaded to the internet, it is almost impossible to completely delete or let the data vanish. To make things more complicated, artificial intelligence (AI)

Table 1: Result of Literature Review

Authors	Goals	Targets	Challenges	Proposed Guideline
[6]	Understand end-user perception of VR risks and present an ethics co-design study with VR developer	VR	Privacy concern, security and safety in physical and psychological	Code of ethics need to established among the VR designer. However, the research also stated the potential risk of not having a *good* code of ethic. Thus, discussion with panels of expert is suggested. Ask the permission for the data collection and be transparent to that. Secure the VR experience by using the security protocols and protection. Do not create content that violates the right of humans and animals and design the experience in user-based
[9]	Present ethical issues in news media coverage of the Covid-19 pandemic	News media, journalism	Journalist expose themselves in danger while doing their job. Journalist have risk in attack on journalism	New era of ethical training and education in critical media health literacy should include honest and communication with the

			Whistle-blowers as governments and organizations may retaliate in damaging ways against both source and journalist Truthfulness and accuracy are challenged because remote access sources Racists statement occurs Audience may influence the journalist	public. Code of ethics may need to refined to provide clearer guidance about special challenges of health journalism
[1]	Present multi-dimensional Learning Analytic framework in AAR devices	AR	Physical issue include attention being distracted to the application Psychological effect includes information overload due to super-realism and overstimulate Data privacy Moral issue	ARLEAN ethical frame-work is proposed by the researchers. Software designer and educator cooperate with each other in system design Safeguard must be implemented in order to counter data-related issues
[10]	Investigate how the media ethics impact for social development in Sri Lanka	Media reporting, social media	A case in Sri Lanka is investigated. Media used some elements in the report, including building on pre-existing narratives, establishing legitimacy through authoritative sources, creating an emotional connection through sympathy and injustice and giving prominence to the story	The media should take in caution in the phases of the information: sourcing, production and spread out.
[11]	Ethical challenges of algorithmic journalism	Algorithmic Journalism	No consistent remapping of media ethics and journalism ethics focusing on the algorithmic journalism Data origin is questioning Biased occur if data is missing. Privacy breach when collecting data Audience control the demand of the algorithmic journalism	The whole media organizations should focus on the ethics challenges as importance of the individual is diminishing. Integration between journalists and coders need to be done.
[3]	Emphasize significance of ethical considerations in the digital age	Digitalization	Digital revolution leads to the need of the governance of the digital	1. Digital governance, regulation and ethics need to works with each other 2. Understand that regulation does not provide the *best* move 3. Hard and soft ethics are proposed by author. Hard ethics-> what is is morally right or wrong. Soft ethics-> what is need or need not to be done over the existing rules 4. Ethics foresight analysis need to be done from the beginning

[12]	Giving critical review in normative media ethics and proposed ethical communication in ontological base	Media	Multimedia approaches compared to only text, ability of media user to create content, distinction between public and private media is blur	1. Focus on determining if communication helps in human pursuits in human virtues 2. Communication should be honest, accurate, responsible, reasoned, tolerant, respectful, understandable and accessible to the recipient 3. Communication should not degrade the other and do not cause damage to human dignity
[8]	Explore ethical considerations related to digital storytelling	Digital Storytelling	Uncertain boundaries and objectives among the team so that no additional information is taken from participants Sponsors want to recruit participants to share the stories Participant's capacity to provide consent need to be investigated given the insecurities faced in daily life Facilitators might manipulated the point of view of the participant consciously or unconsciously Storytelling might include other information that was intended to be private or confidential	The methodologies and practices need to be educated among the board Organizers need to have a screening process among the participants to avoid the risk of harm Encourage participant to involved in the planning phase of the project The balance between the confidentiality and the knowledge production need to be investigated earlier with the team and sponsor
[13]	Review in implication of social media in sponsorship. Create foundation and help in future discussion on ethics dilemma regarding the social media and the sponsorship	Plastic Surgery Social Media Influencer (Applicable to all social media influencer)	Patient autonomy affected due to the social media policies. Harm might be done to patient if used as an example in social media. Best interest of patient is challenged due to influence choices of the patient by paying money. Fairness in achieving top ranking in recognition is questioning for the patient.	1. Medical professionals should only promote brands that are trusted or stated it is a sponsorship 2. Patient should be informed clearly of the usage of their information 3. Patient should be informed when the doctor is paying to be listed as top doctor or receiving unsolicited recognition for work
[14]	Investigate ethical implication of VR in the perspective of motion capture acter	VR	Ethic issues occur when the users seek the realistic and the scene is disturbing Gamer exposed to the games that having unethical content and has the risk for failing to distinguish the virtual world and real life. Actor having conflict when need to act for the disturbing scene and might get harm in psychological	Professional actor must be aware of the actions of the character and actions as the actor (the performance is not real) All stakeholder including audiences should aware of the ethical issues Scene that having risk of harm need to be reviewed whether it is needed or not Unethical actions should not be rewarded to the gamer

[4]	Discuss about the ethic challenges in VR application	VR	Over trusting in VR that affect the psychological and behavior aspects of user Immersion aspect of VR introduces additional risk factor especially for children Desensitization occurs in VR as the user is immersed into the application	Additional investigation and analysis testing stages in development of VR Designer should not ignore potential mental health and safety risk
[15]	Comment on Slater and his colleagues [5] finding by extending the finding in term of ubiquitousness of drugs and relation to XR	VR, AR, XR	XR will develop outside of the lab and become daily use technology. Like drugs, there are benefits and risk of XR in this future. Influence of drugs (including alcohol, caffeine) may cause unanticipated interaction in XR	XR technology has the potential in treatment However, research needed to investigate the impact of XR experience when combining with the drugs consumption
[16]	Address ethical implication for the category of deep fakes	Deep fakes	Causing invasion into autonomy and sexual privacy, humiliation and abuse Cause damage to the reputation and impact on election result Ownership of the intellectual property	The author proposed market-driven solutions in addition to public and private law. The companies that running deep fake content should have revision in the ethical duties associated with the businesses. AI system can be used in the fraud detection
[17]	Discuss the ethics problems in freemium games, microtransactions and loot boxes (deontological standpoint)	Games	Random rewards lead to gambling mindset to the players Paying for item may change the game experience in unintended ways By having item that can only obtained by real money, the player is treated as tools to generate money for designer	Pay for speedup/item in single player are having less ethical issue as it can considered as lowering the difficulty of the game Paying for cosmetic item is having less ethical issue as it will not affect the gameplay and it is purely optional Designer should declare in the first place that the game will having microtransaction Designer should not increase the frustration of the player and convince them to pay in order to remove those.
[18]	Investigate the implications of ethics as key to sound professionalism in Nigerian journalism	Sound Profession-alism	Information about possible illegal conduct by a stakeholder is offered to the journalist Challenge of objectivity in writing news may face by a journalist Management level might reject the news written by the journalist. A journalist is given money to delete something by a politician	Avoid praise singing A standards for professional training should be included just like medicine and law Disciplinary committees need to be established
[19]	Investigate the ethics issues in entrepreneurial journalism	Entrepren-eurial journalism	Crowdfunding might cause the content to be favour for the profit Autonomy of entrepren-eurial journalism has been	Open journalism is proposed by the researchers, which is completely open to collaborations. This way includes the audiences as the

			challenged since they tend to switch the role constantly	peers and at the same time the transparency is understood. Closed system journalism retain full authority. Transparency and openness are the important aspect in crowdfunding platforms
[2]	Discuss the social and ethical issues that arise as a result of digitization	ICT professional	Misuse of virtual avatars and reduction of self-censorship due to continuous monitoring Psychological damage in VR Desocialization and alienation in VR	Regulating big data and transparency of algorithms Awareness in digitizing and cooperation need to be raised in public and government
[7]	Discuss elements of ethics guidelines that can address the new ethical challenges in immersive journalism	Immersive Journalism	Unconscious advertising, Immersive vs public safety, Details vs privacy	1. Acknowledge current guideline may be challenging for the technology nowadays 2. Consider audience dimension in more ways of thinking (doing no harm -> doing no psychological harm) 3. Consider the audiences as the partner in development in the guideline
[5]	Exploring ethics of AR, VR and XR in the perspective of golden rule of reciprocity (do what others do to you)	VR, AR, XR	Behavior changes and prioritizing the virtual world over the real one Psychological harm Data privacy and Identity Hacking	Minimizing potential harm of immoderate used by having the developer aware of the role they play Level of deception can be selected so that the user may clearly know the virtual world Personal information protection Educate the user and the producer/designer
[20]	Stating problem faced in digital media ethics	Journalism of amateurs and professionals	Traditional journalism and online journalism are having different focus Local and global journalism responsibilities Anonymity, speed and corrections, conflict of interest, entrepreneurial journalism, reporters who are using social media, citizen journalists and image usage are the challenges faced nowadays	Integrated newsroom which having layered journalism. This consists of different forms of journalism and different type of journalism

will grab the data effectively. It might get too "effective" if the algorithm behind it is designed to take the data greedy. The information taken might be from a private database which is designed not to be shared with the public. However, the algorithm might not (and probably not) be aware of this and this will cause the database breach and the personal privacy being taken unaware [11]. Also, the sources provided to journalists need to be challenged [20]. How does the information is being generated or

taken? As the information provider is anonymous, it is difficult to backtrack and review the sources.

3.1 Truthfulness of the Information

As a multimedia professional, the information will be prepared and distributed to the target audience. These two processes in the information will be challenged by ethics as well. Just as stated in the previous subtopic, the source of the information will be questioned "Does the origin of the information is really trustworthy?". Also, the absence of full data regarding a specific topic will cause bias in preparing the article [11]. Some parts of the story are missing, and the reporters are unable to give a comprehensive view of the story. This causes the addition of the personal view of the reporters and it will lead to misunderstanding to the audience. In another way, the facilitators will guide the participants when providing the story in storytelling. However, this might cause the manipulation of the story of the participant consciously or unconsciously and the truth may be altered [8]. Also, harm may be made to the participants, if the story that should not be told is used and shared in social media [13].

The journalists also will use the information provided by the public as the emerging of social media enables the public to be the information provider [12]. However, this causes the credibility of the information to be questioned because the majority of the public does not undergo proper training of journalism. In some cases, they may share or provide the information to journalists without verifying the accuracy of the information. The introduction of image and video altering makes the whole situation complicated. The advancement of technology in editing images such as DeepFake causes the privacy and the reputation of the victim to be harmed [16]. When preparing information especially in a graphic or image, journalists also need to deal with unwanted advertising if there are any brands appearing in the image [7]. This focus whether it is conscious or unconscious may affect the credibility of the information as well. The information is hard to validate and the accuracy will be dropped if the information is from places that hard to be accessed by the journalists or when the current scenario limits the journalists to get from remote access sources such as lockdown when Covid-19 pandemic [9]. The journalists also need to deal with the autonomy of journalism especially for those who are involved in entrepreneurial journalism [19]. The profit of journalists is from the

audience and there are trends, preferences or even the standpoint of the audience that need to be fulfilled. The journalists may have the struggle on whether to fulfill the needs of the audience or to report the truth to the audience and take the risk of the loss in financial. This can be classified as conflict of interest [20].

Proceeding to the reporting of the information, the journalist may cause psychological harm to the public. There are some factors that eventually cause harm. First of all, there will be the terms and words used in the report. The terms used might cause confusion or unintended emotion connection and thus inequality happens in an unintended way [10]. The involvement of personal social media of the journalist may also cause the lack of impartiality of the journalist. According to the example given by [20], the reporter may cover the topic of a candidate for mayor dispassionately but having a strong opinion in his or her personal social media. The ethics of journalists will be challenged if someone especially at the management level of the organization or the country bribes the journalists to hide the report or to delete some statement or report that has disadvantages to the related person [18]. [13] also stated the similar scenario in medical social media influencers. According to them, the money payment may affect the best interest of the patient due to the influence in social media and the ranking of a doctor in social media makes the patient believe that that particular doctor is good or best in the area. In fact, the ranking itself might also be altered by the money payment and cause the ranking to be unfair to other doctors.

3.2 Realism in Virtual World

As technology in hardware and graphical improves sky-rocketed, the entertainment experience becomes more immersive and the level of immersion and realism becomes higher than before [14]. However, some potential ethical issues could occur when applying highly immersive virtual environments. Many researchers raised potential issues with the realistic environment and the safety of users. According to [4], Many risk factors are added to the VR application compared to other traditional medias, such as the brainwashing of the user and the content risks including sexual and violence. Also, the researcher raised the concern about children exposed to the VR application may lead to the risk for unable to distinguish between the real world and the virtual world. In fact, the same concern had been raised by other researchers not

only to the children but also to the adults ([5], [1]) and actors of the application [14]. This is due to the overstimulation to the users with the intention of letting the users believe they are in the virtual world. This scenario will get worse if the content presented to the users is unethical or involves sexual or violence aspects [14]. The strong emotional reactions will be reflected to real world and the users have the potential to commit crimes just as in the virtual world [6]. Also, safety issues are not only raised in terms of psychology, but physically as well. According to the research done by [6], motion sickness which was not a major concern in computer games, turns out needs to be considered in VR applications. Also in the research, the AR developers also raised the issues about the unaware of the user to the real world threat such as not hearing the fire alarm or bumping into objects while in gameplay. The superrealism in XR may also cause physical harm to users. An example is given by [5]. The user may try to sit on a virtual chair without thinking while there is no counterpart in reality, possibly resulting in harm.

The immersion in the virtual world will also affect the behavior of the user in the real world. Many researchers stated that immersing in the virtual world will cause desensitization and desocialization of the user [4], [2], [15], [5]). When massive use of the technology may replace the interaction in real life, the concern was raised regarding the people may lose social competencies such as dealing with rejection or arguments [2]. The users' sense of reality will shift to the virtual world, thinking that the real world and their bodies are unreal and end up neglecting the actual physical and social environment. Eventually, the users will prefer to have social interaction in the virtual world due to it being more enjoyable and taking this concept to the extreme, an abstract society will be made and the people will withdraw themselves to the real society [5].

3.3 Game Design Ethical Issues

Besides the major ethical issues stated previously, there are ethical issues related to game design. [17] investigated ethical issues in loot boxes, microtransactions and freemium games. According to her research, the ethical issues found in single player games have less impact compared to multiplayer games. This is because the money invested by the player in single player games can be treated as lowering the difficulty of the game. The only concern about this is the price charged to the player. However, there are many considerations that need to be made when dealing with multiplayer games. When there is a poor design, the gameplay may suffer, causing those who spend money on the game to have a huge advantage over those who do not. This will cause the loss of the player while those who spend money will be in a bad loop thinking that it would be wasted if they did not continue the game as they already spent their money on it. For lootboxes, it is problematic if the odds are not known to the players since they cannot evaluate whether it is worth it or not. However, even though the odds are stated, there exists gambling aspects and addiction may occur to the player.

In this subtopic, ethical issues and challenges have been discussed. Overall, issues related to personal privacy need to be solved or minimized by multimedia professionals. Also, professionals need to take caution with ethical challenges when preparing and publishing information. For AR and VR designers, there are dilemmas between the realistic virtual world design and the safety issues caused by the realism. Game design ethical issues were also discussed at the end of this subtopic. In the next subtopic, guidelines and the steps to overcome those ethical challenges will be discussed.

3.4 Steps to Overcome Challenges

In this subtopic, a guideline will be proposed with the integration of the literature done by other researchers to overcome the challenges or minimize the impact created by the ethical issues stated in the previous subtopic.

3.4.1 Cooperation Among Stakeholders

Most researchers suggested that the code of ethics should be made among the colleagues and the professionals that are outside of the organization [8], [14], [11], [6], [18], [2], [9], [1]). The whole team should be in the same line about the objectives and the limitations that the project is going to be done. This can prevent the additional information requested from the participant and has the risk of violating the consent requested from the participant and the privacy breach. Also, the management level should be synchronized with the development team so that ethical issues can be foreseen and a guideline can be made based on the decision made in the discussion. The ethical foresight analysis can be done under this circumstance. For this, the development team members will have a reference for their decision making based on the agreement. An interesting idea about standardizing

professionals was raised by [18]. In addition, they stated there should be standard training for those professionals (journalists in their research) just as there is for other professionals, such as law and medicine. All professionals including journalists and designers should have a code of ethics in the community [6]. This is not only for the good of the developer himself/herself, but to bring the whole community to a healthy level and build trust with users and audiences. However, [6] also stated that a good code of ethics needs to be reviewed by other stakeholders such as the management level or panel of experts in order to have a full view on it. Also, according to [3], the cooperation between the community and the government needs to be established in order to have a fully understand between the regulations and the ethics. He visualized the scenario as a game, where the regulations only provide the rules of the game and stated the available moves that can be made while ethics provide the best moves of the game.

3.4.2 Prioritize Audience/Users

As the boundaries between the public and the developers were being blurred, some researchers stated the concept of letting the audiences or the users be involved in the development ([20], [8], [14], [19], [7], [5]). By involving the target audience, the perspective of the audience can be known to the designers. At the same time, audience participation will fulfill audience needs and engagement will be increased with this concept. The audiences and the users will also be educated on how professionals work and the whole community will be trained in good ethics.

The designers should emphasize the user especially on the topic of personal privacy. Permission should be asked to the users before information is being taken ([8], [6]). The risks in safety in terms of physically and psychologically should not be ignored by the designers [4]. The unethical scene, such as violence or violations of human and animal rights [6], should be reviewed to determine whether or not it is necessary, and unethical actions should not be rewarded [14]. The designers should also know the roles they play in the addiction of the application designed and can minimize the risk of overuse of the application [5]. The usage of the application in VR, AR or XR was compared with drugs available in society such as alcohol and caffeine by [15]. [15] stated that the XR application will eventually be in people's daily lives just like drugs in the future. It is the amount of consumption that decides the technology or the item

is good or bad for humankind. For this, [5] proposed the availability for users to adjust the level of realistic of the virtual world so that the users can differentiate between the real and virtual world easier. The designer should not treat the audiences or the users as tools to generate income, but as peers in the development [19], [17]).

The rapid evolution of multimedia technologies has revolutionized the way information is presented and consumed, necessitating a critical examination of the ethical challenges confronting multimedia professionals. This study seeks to deepen our understanding of these challenges and offer guidance for ethical decision-making through a systematic literature review. Key ethical considerations identified include privacy concerns, the delicate balance between realism and potential addiction, and the imperative of truthfulness in information dissemination.

Drawing on similar case reports, this research enriches the existing knowledge base by providing a comprehensive overview of ethical dilemmas faced by multimedia professionals. By critically analyzing findings in relation to existing literature, this study elucidates common themes and trends while offering novel insights into mitigating ethical risks. Furthermore, the proposed guidelines emphasize collaboration within the professional community and active involvement of audiences in the development process, offering practical strategies to navigate ethical challenges in multimedia production. Through this synthesis of research and practical recommendations, this study contributes to the ongoing discourse on ethical considerations in multimedia professions, fostering a more ethical and responsible multimedia landscape

4. FUTURE WORKS

This literature review sets the stage for several potential avenues of future research in the realm of ethical considerations in multimedia professional practices. One promising direction is the expansion of the study to encompass a broader range of multimedia-related professions beyond those discussed in this review. For instance, exploring the ethical challenges encountered by film editors, movie producers, short video producers, and other multimedia professionals could offer valuable insights into the unique ethical dilemmas faced across various sectors of the industry. Additionally,

future studies could delve deeper into specific ethical issues identified in this review, such as copyright infringement, deceptive editing practices, and the manipulation of digital content.

Moreover, given the rapid advancement of technologies in the multimedia landscape, ongoing research is essential to keep pace with emerging ethical challenges. Continued investigation into the ethical implications of new technologies, such as deepfakes, virtual reality, and augmented reality, can inform industry best practices and regulatory frameworks to promote ethical conduct in multimedia production and consumption

5. LIMITATIONS

Despite its contributions to the discourse on ethical considerations in multimedia professional practices, this literature review is not without its limitations. One limitation is the scope of the reviewed literature, which may not capture the full range of ethical challenges encountered by multimedia professionals. Additionally, the findings presented in this review are based on existing research and may not reflect the most current developments in the field.

Furthermore, the review may be subject to publication bias, as it primarily draws upon peer-reviewed academic sources, potentially overlooking valuable insights from industry reports, practitioner perspectives, and online discussions. Moreover, the generalizability of the findings may be limited by the geographical and cultural contexts in which the studies were conducted. Overall, while this literature review provides a foundation for understanding ethical considerations in multimedia professional practices, further research is needed to address these limitations and advance our understanding of this complex and rapidly evolving field.

6. CONCLUSION

An overview of multimedia professionals is explained. The ethics faced by them are discussed based on the literature reviewed in this research. Also, a brief guideline is proposed for countering ethical challenges. This literature review contributes to the discourse on ethical considerations in multimedia professional practices. Further study can be made on the foundation of this article. This includes involvement of other fields, such as film editor, movie production, short video producer and other multimedia related fields. Also, more literature can be reviewed to have more information about the ethical challenges faced by multimedia professionals. In light of the rapid advancement of technologies, it is the responsibility of all stakeholders, from the government to the development team, to provide multimedia services of better quality and in a more ethical manner.

REFERENCES:

[1] Christopoulos, A. et al., "ARLEAN: An Augmented Reality Learning Analytics Ethical Framework," *Computers*, 10(92), 2021. doi: https://doi.org/10.3390/computers10080092

[2] Royakkers, L. et al., "Societal and Ethical Issues of Digitization," *Ethics and Information Technology,* 20, 2018, pp. 127-142. doi: https://doi.org/10.1007/s10676-018-9452-x

[3] Floridi, L., "Soft Ethics and the Governance of the Digital," *Philosophy & Technology*, 31, 2018, pp. 1-8. doi: https://doi.org/10.1007/s13347-018-0303-9

[4] Kenwright, B., "Virtual Reality: Ethical Challenges and Dangers," *IEEE Technology and Society Magazine,* 37(4), 2018, pp. 20-25. doi: 10.1109/MTS.2018.2876104

[5] Slater, M. et al., "The Ethics of Realism in Virtual and Augmented Reality," Sec. *Virtual Reality and Human Behavior*, 1, 2020. doi: https://doi.org/10.3389/frvir.2020.00001

[6] Adams, D. et al., "Ethics Emerging: The Story of Privacy and Security Perceptions in Virtual Reality," *Fourteenth USENIX Conference on Usable Privacy and Security* (SOUPS '18), 2018, pp. 443-458.

[7] Sanchez Laws, A.L. & Utne, T., "Ethics Guidelines for Immersive Journalism," *Frontiers in Robotics and AI,* 6(28), 2019. doi: https://doi.org/10.3389/frobt.2019.00028

[8] Gubrium, A.C. et al., "A Situated Practice of Ethics for Participatory Visual and Digital Methods in Public Health Research and Practice: A Focus on Digital Storytelling," *American Journal of Public Health, 104(9),*

2014. doi: https://doi.org/10.2105/AJPH.2013.301310

[9] Bonfiglioli, C., "Global Media Ethics and the Covid-19 Pandemic," *Handbook of Global Media Ethics, 2021.* doi: https://doi.org/10.1007/978-3-319-32103-5_42

[10] Dissanayake, M.S., "A Study on the Impact of Media Ethics for Social Development in Sri Lanka (Case Study)," *International Journal of Social Sciences: Current and Future Research Trends* (IJSSCFRT), 2023.

[11] Dorr, K.N. & Hollnbuchner, K., "Ethical Challenges of Algorithmic Journalism," *Digital Journalism*, 5(4), 2017, pp. 404-419. doi: https://doi.org/10.1080/21670811.2016.1167612

[12] Fourie, P.J., "Normative Media Theory in the Digital Media Landscape: From Media Ethics to Ethical Communication," *Communication*, 43(2), 2017, pp. 109-127. doi: https://doi.org/10.1080/02500167.2017.1331927

[13] Gupta, N. et al., "The Plastic Surgery Social Media Influencer: Ethical Considerations and a Literature Review," *Aesthetic Surgery Journal*, 40(6), 2020, pp. 691-699. doi: 10.1093/asj/sjz329

[14] Kade, D., "Ethics of Virtual Reality Applications in Computer Game Production," *Philosophies*, 1(1), 2015, pp. 73-86. doi: https://doi.org/10.3390/philosophies1010073

[15] Lorenz, M., "Commentary: The Ethics of Realism in Virtual and Augmented Reality," Sec. *Virtual Reality and Human Behavior*, 1, 2020. doi: https://doi.org/10.3389/frvir.2020.00006

[16] Meskys, E. et al., "Regulating Deep Fakes: Legal and Ethical Consideration," *Journal of Intellectual Property Law & Practice*, 15(1), 2020, pp. 24-31. doi: https://doi.org/10.1093/jiplp/jpz167

[17] Neely, E.L., "Come for the Game, Stay for the Cash Grab: The Ethics of Loot Boxes, Microtransactions, and Freemium Games," *Games and Culture*, 16(2), 2021, pp. 228-247. doi: https://doi.org/10.1177/1555412019887658

[18] Pepple, I. & Acholonu, I., "Media Ethics as Key to Sound Professionalism in Nigerian Journalism Practice," *Journalism and Mass Communication*, 8(2), 2018. doi: http://dx.doi.org/10.17265/2160-6579/2018.02.002

[19] Porlezza, C. & Splendore, S., "Accountability and Transparency of Entrepreneurial Journalism: Unresolved Ethical Issues in Crowdfunded Journalism Projects," *Journalism Practice*, 10(2), 2016, pp. 196-216. doi: 10.1080/17512786.2015.1124731

[20] Ward, S.J.A., "Digital Media Ethics," *Center for Journalism Ethics*, n.d. https://ethics.journalism.wisc.edu/resources/digital-media-ethics/