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June 4, 2024

Mr. Mark R. Warner  
United States Senator  
703 Hart Senate Office Building  
Washington, DC 20510

Dear Senator Warner,

First and foremost, on behalf of LG AI Research, I am delighted to join the Tech Accord to Combat Deceptive Use of AI in 2024 Elections. I would also like to extend my gratitude for your leadership in this important initiative. Please find below our responses to your questions regarding the implementation of the Tech Accord:

1. What steps is your company taking to attach content credentials, and other relevant provenance signals, to any media created using your products? To the extent that your product is incorporated in a downstream product offered by a third-party, do license terms or other terms of use stipulate the adoption of such measures? To the extent you distribute content generated by others, does your company attach labels when you assess – based on either internal classifiers or credible third-party reports – to be machine generated or machine-manipulated?
  - In 2023, LG AI Research proudly unveiled its proprietary generative AI model, EXAONE 2.0. EXAONE 2.0 is a bilingual model proficient in both Korean and English, and the only multimodal model in South Korea capable of bidirectional generation between texts and images.
  - Based on the EXAONE 2.0 model, LG has partnered with various industries to develop applications and services, focusing on innovation in design, new materials and drugs, improved medical diagnostics, and increased productivity in product development.
  - Among these services, EXAONE Atelier is a multimodal generative AI platform capable of recognizing and generating both images and text. It enables users to freely create content they desire without copyright issues.
  - Training a model with extensive image data is crucial for improving performance. However, sourcing diverse image data from the internet often raises copyright concerns. To prevent copyright issues, LG AI Research has trained its AI models using licensed data

from libraries like Shutterstock and IMAGO. This approach ensures that images generated by EXAONE Atelier are free from copyright concerns.

- LG AI Research offers its generative AI models for industrial use exclusively to LG affiliates and selected external partners. We adhere to the principle of clearly indicating when outputs are generated by AI.
- For example, when images generated by LG AI Research's generative AI models are used in product design, the final product explicitly states, "inspired by EXAONE Atelier," to indicate that generative AI was utilized in the design process as below:

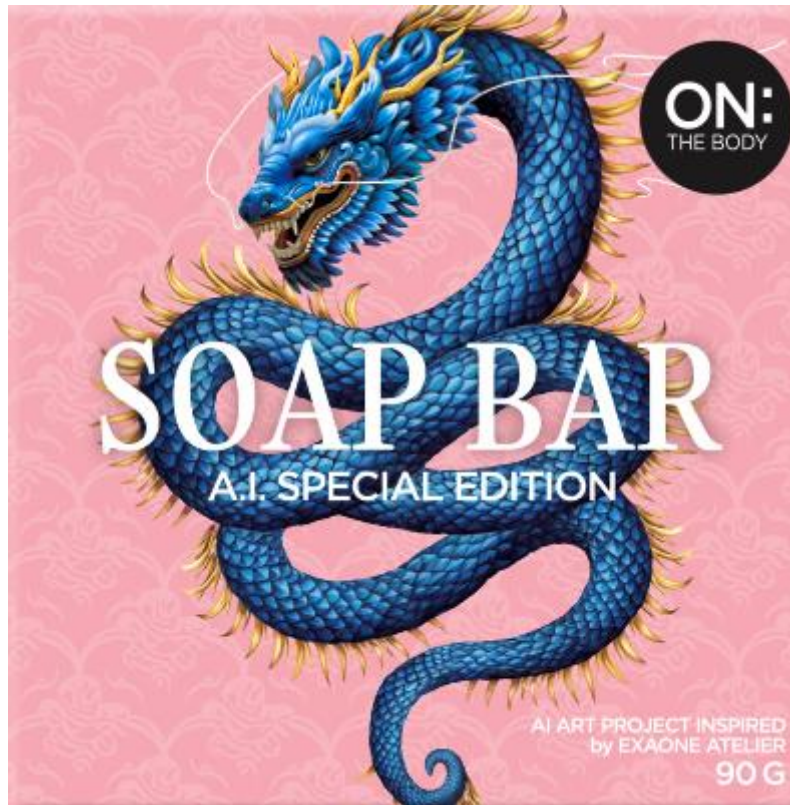
<Samples of package designs using EXAONE Atelier>



Source: LG Household & Healthcare



Source: LG Household & Healthcare



Source: LG Household & Healthcare

<Process of Package design using EXAONE Atelier>



Images created by EXAONE Atelier



Package design of sum37°

Source: LG Household & Healthcare

2. What specific public engagement and education initiatives have you initiated in countries holding elections this year? What has the engagement rate been thus far and what proactive steps are you undertaking to raise user awareness on the availability of new tools hosted by your platform?
  - In South Korea, a parliamentary election was held on April 10th this year. In December of the previous year, an amendment to the Public Official Election Act was passed,

prohibiting election campaigning using deepfake technology. This legislation, often referred to as the 'Deepfake Election Campaign Ban Act,' stipulates that from 90 days prior to the election until election day, it is illegal to produce, edit, distribute, screen, or post virtual election campaign materials that are indistinguishable from reality using generative AI technology. Violations of this law are subject to penalties of up to seven years imprisonment or fines ranging from approximately 10,000 to 50,000 USD.

- Even beyond the 90-day period before the election, any deepfake campaign materials must clearly indicate the use of deepfake technology. In light of the legal restrictions on deepfake usage during the election process in South Korea, AI model development and hosting companies within the country have proactively taken measures to ensure compliance by not providing or distributing related content.

3. What specific resources has your company provided for independent media and civil society organizations to assist in their efforts to verify media, generate authenticated media, and educate the public?

- LG AI Research believes that developing trustworthy AI technology and enhancing the AI literacy of the general public are both essential to ensure AI does not threaten democracy. We recognize that when citizens become not only mature AI users but also critical observers, an ethical AI ecosystem can be fostered through self-regulation.
- Based on this belief, LG AI Research provides hands-on, high-quality AI education free of charge to over 30,000 elementary, middle, and high school students, as well as young adults and professionals every year. These educational programs include not only technical training but also content on AI ethics.
  - SUNG Seunghun. (2024, April 28). LG rolled up its sleeves to foster and discover artificial intelligence (AI) talents. *Maeil Business Newspaper(MK)*. <https://www.mk.co.kr/en/special-edition/11002112>





Participants in the LG Aimers hackathon are collaboratively solving AI challenges.

- To expand these efforts globally, LG AI Research is collaborating with UNESCO to develop an AI Ethics MOOC(Massive Open Online Courses). Over the next year, we will work with global experts to create online educational content, which will be made available worldwide by the end of next year.
  - Park Se-ra. (2024, May 23). LG, UNESCO to develop online education course on AI ethics. *The Korea Herald*. <https://m.koreaherald.com/view.php?ud=20240523050469>
  - LG and UNESCO to Create an AI Ethics Platform Together <https://www.lgresearch.ai/news/view?seq=432>



Bae Kyung-hoon (left), president of LG AI Research, and Kim Soo-hyun, director of the UNESCO Asia and Pacific, pose for a photo after signing an agreement on AI ethics at the Korea Institute of Science and Technology in Seoul at AI Seoul Summit 2024.

4. What has been your company's engagement with candidates and election officials with respect to anticipating misuse of your products, as well as the effective utilization of content credentialing or other media authentication tools for their public communications?
  - As previously mentioned, due to South Korea's Public Official Election Act prohibiting the use of AI technology in elections, companies are not allowed to engage with candidates and election officials for the campaigns using AI technologies.
  - Separately, to prevent the misuse of AI technology, LG AI Research actively participates in various committees and forums led by South Korean government bodies such as the National Assembly and the executive branch.
  - Through these efforts, LG AI Research contributes to the establishment of AI ethics and trust policies in South Korea by sharing our pioneering practices related to content credentialing of AI-generated content, AI ethical impact assessments, and AI literacy education.
  
5. Has your company worked to develop widely-available detection tools and methods to identify, catalogue, and/or continuously track the distribution of machine-generated or machine-manipulated content?
  - For image generation, we are considering participation in the Coalition for Content Provenance and Authenticity (C2PA), led by companies like Microsoft and Adobe. Concurrently, we are researching our own watermark embedding technology.

- For image understanding, LG AI Research is conducting research to develop algorithms capable of detecting content generated by large language models (LLMs).
  - Furthermore, to reduce hallucinations, we are enhancing models that generate responses based on clear evidence using Retrieval Augmented Generation (RAG) technology. This technology integrates search capabilities to ensure that the generated content is more accurate and well-founded.
6. (To the extent your company offers social media or other content distribution platforms) What kinds of internal classifiers and detection measures are you developing to identify machine-generated or machine-manipulated content? To what extent to these measures depend on collaboration or contributions from generative AI vendors?
- LG AI Research develops generative AI models and offers services exclusively on a B2B basis for industrial applications and services to partner companies. We do not provide social media or content distribution platforms to the general public.
  - However, as previously mentioned, we are actively researching technologies capable of identifying content created by generative AI, as well as visible and invisible watermark technologies for image generation AI models.
7. (To the extent your company offers social media or other content distribution platforms) What mechanisms has your platform implemented to enable victims of impersonation campaigns to report content that may violate your Terms of Service? Do you maintain separate reporting tools for public figures?
- LG AI Research does not provide social media or content distribution platforms to the general public.
  - As our services are exclusive and not accessible to the general public, we are not under obligation to maintain any reporting tools for public figures.
8. (To the extent your company offers generative AI products) What mechanisms has your platform implemented to enable victims of impersonation campaigns that may have relied on your models to report activity that may violate your Terms of Service?
- When our generative AI are used for B2B purposes, we operate a system that collects user feedback on outputs and allows users to report issues that may arise during usage.
  - For our B2B customers, we provide terms or guidelines that include obligations regarding the appropriate use of AI technology and the prevention of potential misuse. This is part of our efforts to mitigate potential risks and ensure responsible use.
9. (To the extent your company offers social media or other content distribution platforms) What is the current status of information sharing between platforms on detecting machine-generated or machine-manipulated content that may be used for malicious ends (such as election disinformation, non-consensual intimate imagery, online harassment, etc.)? Will your company commit to participation in a common database of violative content?

- LG AI Research does not provide social media or content distribution platforms to the general public.
- However, LG AI Research is fully committed to actively participating in the establishment of a global common database to prevent the misuse of AI-generated content. Sharing information on violative content can help develop better detection technologies for AI-generated materials and enhance response capabilities.
- In South Korea, for instance, we share information on AI-generated content detection technologies through the AI Ethics Policy Forum and the Council for Promoting Hyper-Scale AI, both led by the Ministry of Science and ICT.

Should you have any further inquiries, please feel free to reach out. We look forward to collaborating in our journey to develop responsible and trustworthy AI.

Sincerely,

Youchul Kim

Head of Strategy

LG AI Research