Minecraft-ify:

Minecraft Style Image Generation with Text-guided Image Editing for In-Game Application

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Spotlight Paper

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VIVE STUDIOS

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Minecraft?

- In simple terms the point of Minecraft is that it gives players unlimited opportunities to be creative, with no limits.

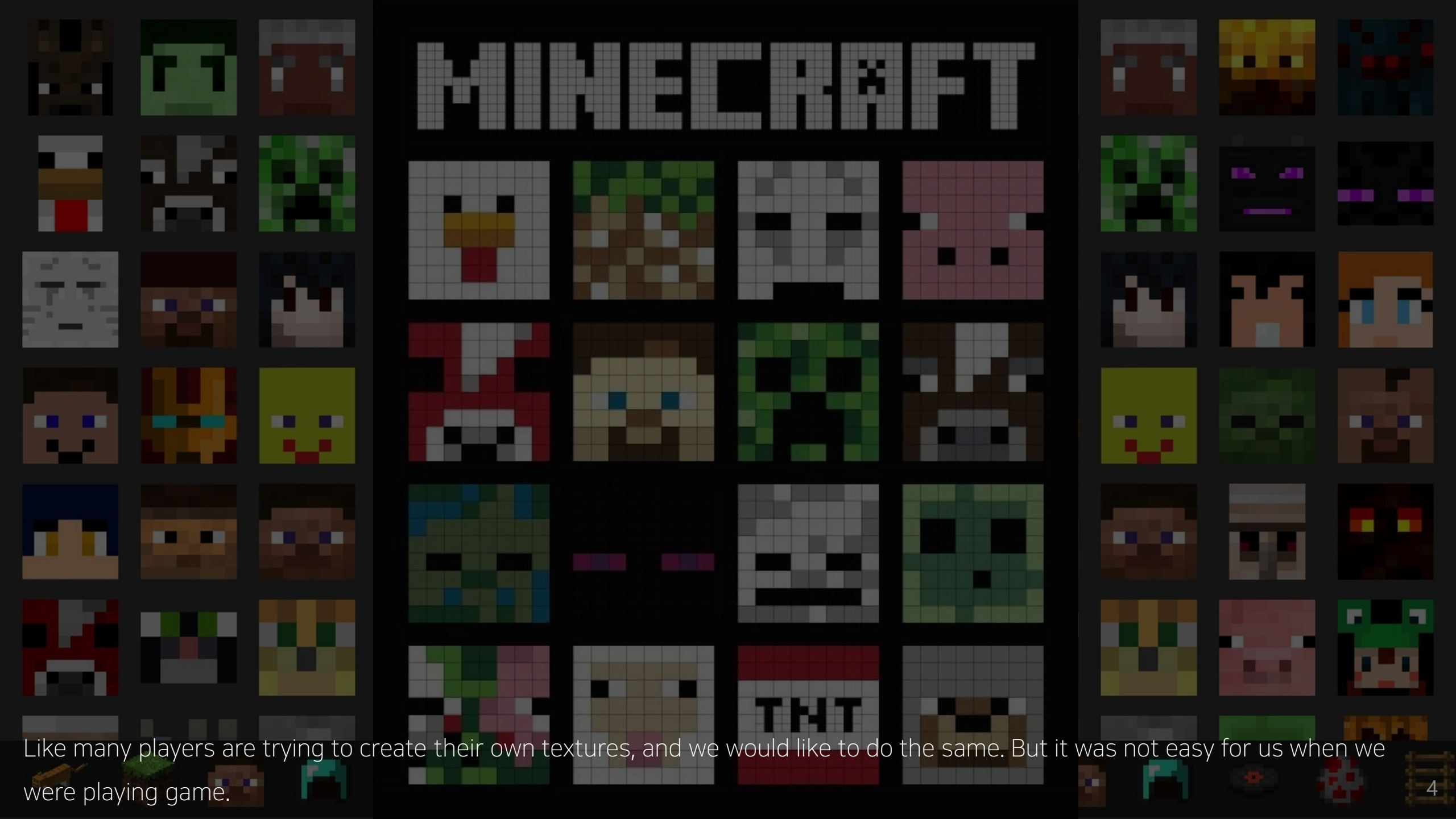
- It is commonly used for education, 3D modeling, architecture design, and so on in Minecraft virtual worlds.

- Minecraft is one of the most popular PC game in the world.

Custom Texture Creation in Minecraft* World

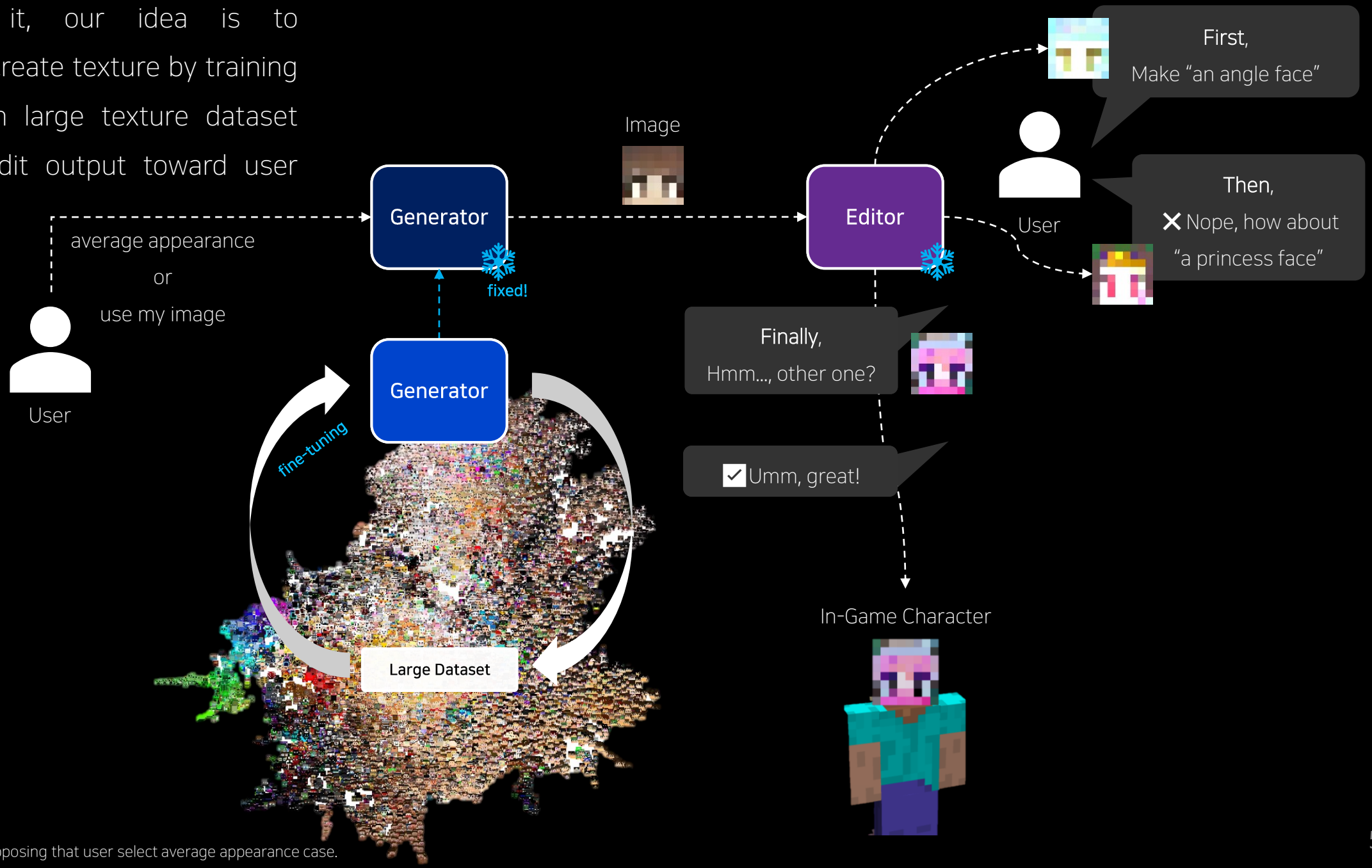
- For players, textures are a kind of identity in the virtual world to show other users their personal indivisuallity.
- However, creating a custom texture from scratch is burdensome and takes a lot of time, but the result is still an unsatisfactory look.

*Minecraft : https://www.minecraft.net/



Like many players are trying to create their own textures, and we would like to do the same. But it was not easy for us when we were playing game.

To address it, our idea is to automatically create texture by training generator with large texture dataset and further edit output toward user intention.



Here, we drew the figure by supposing that user select average appearance case.

Contributions

In the perspective of player, we would like to support all the user intention by providing AI-feature as much as possible.

- Ours should allow user to generate random texture

  → random generation from gaussian distribution

- Ours also allow user to further manipulate it toward their imaginary.

  → optimization via CLIP through inputted text

- If they want, ours accept user-provided image for manipulation.

  → GAN inversion

Process #1

Generation (Feed-forward.) #1-1

Input : random seed

Output : 3 x 512 vector, 8 x 8 image

select one option!

Inversion (Optim.*) #1-2

Input : 3 x H x W, image

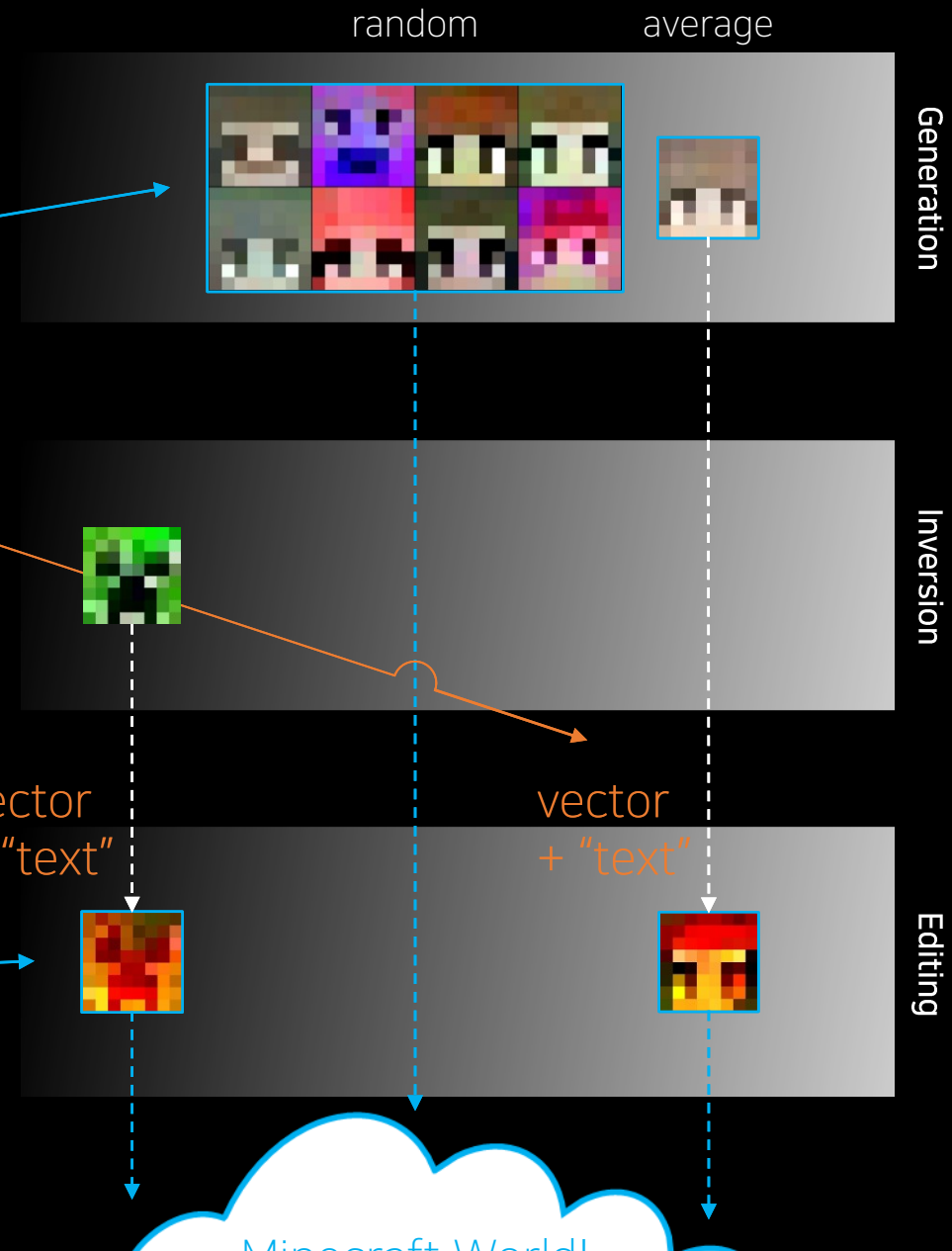
Output : 3 x 512 vector

Process #2

Editing (Optim.*)

Input : 3 x 512 vector, tokenized text

Output : 8 x 8 image



*In optimization process, we omit intermediate data

Result

Inversion Editing

Editing

Thank you for your attention!

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If you have any question, please visit our poster,
3:30pm~4:30pm, Room 252-256

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