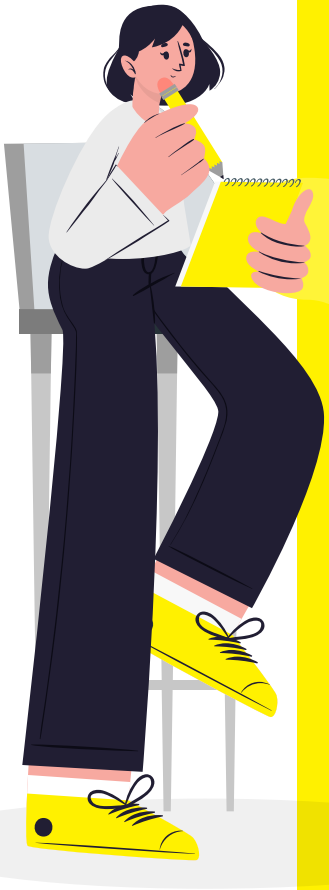
Team 9

Digitalization and AI in practice - TEK830



SceneGen

Marketing Mockup Generator for IKEA

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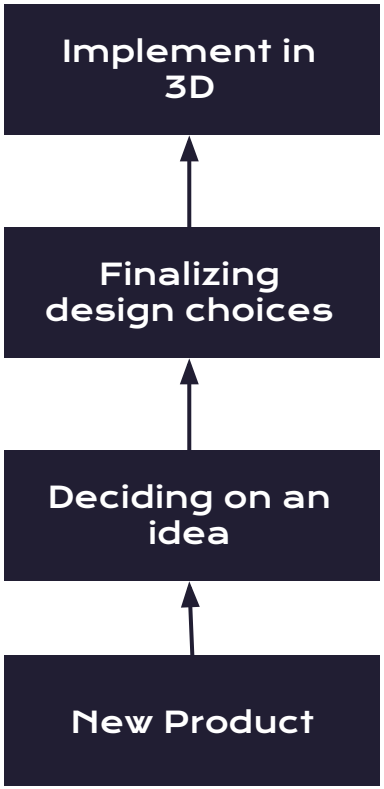
“Idea Generation is hard”

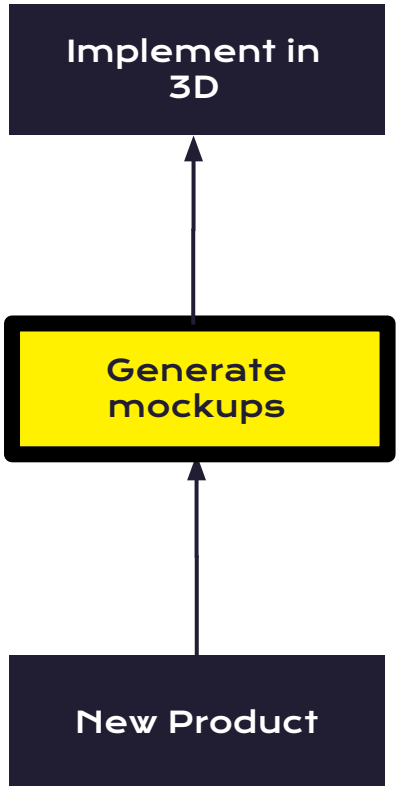
- Scene designer at IKEA

Workflow

Current workflow

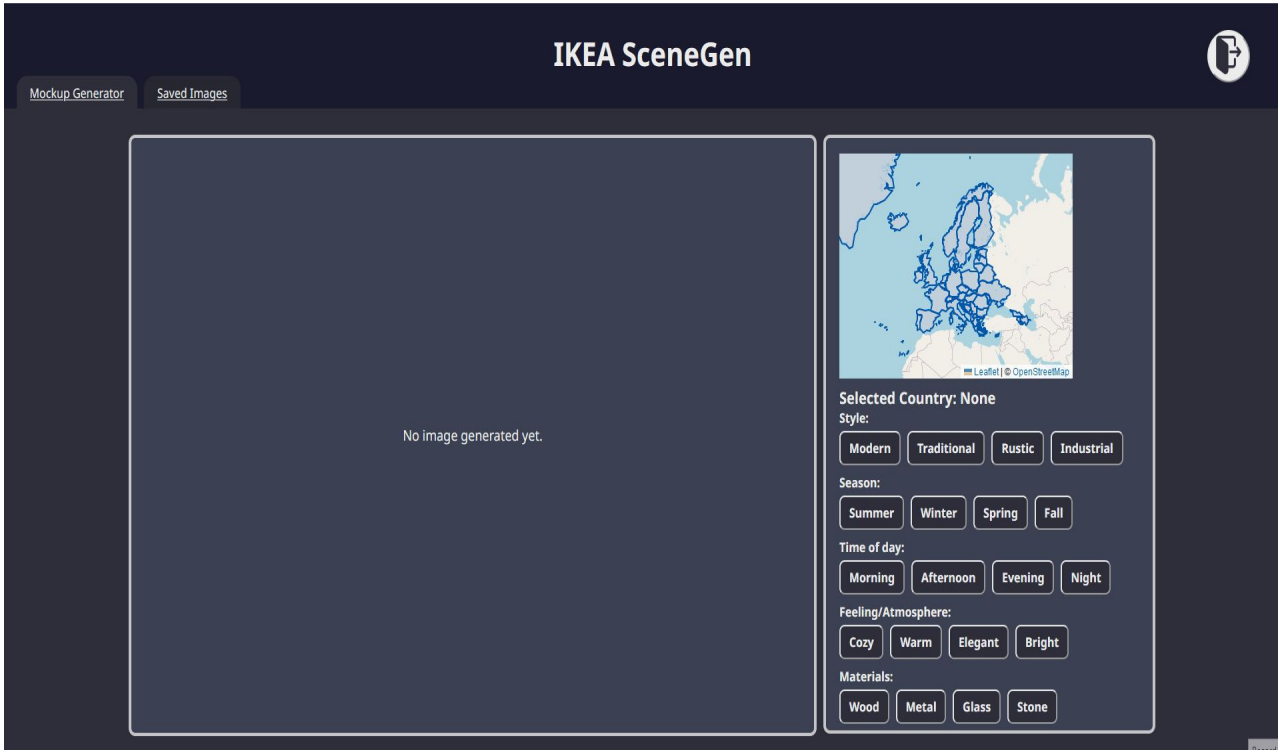


SceneGen Workflow

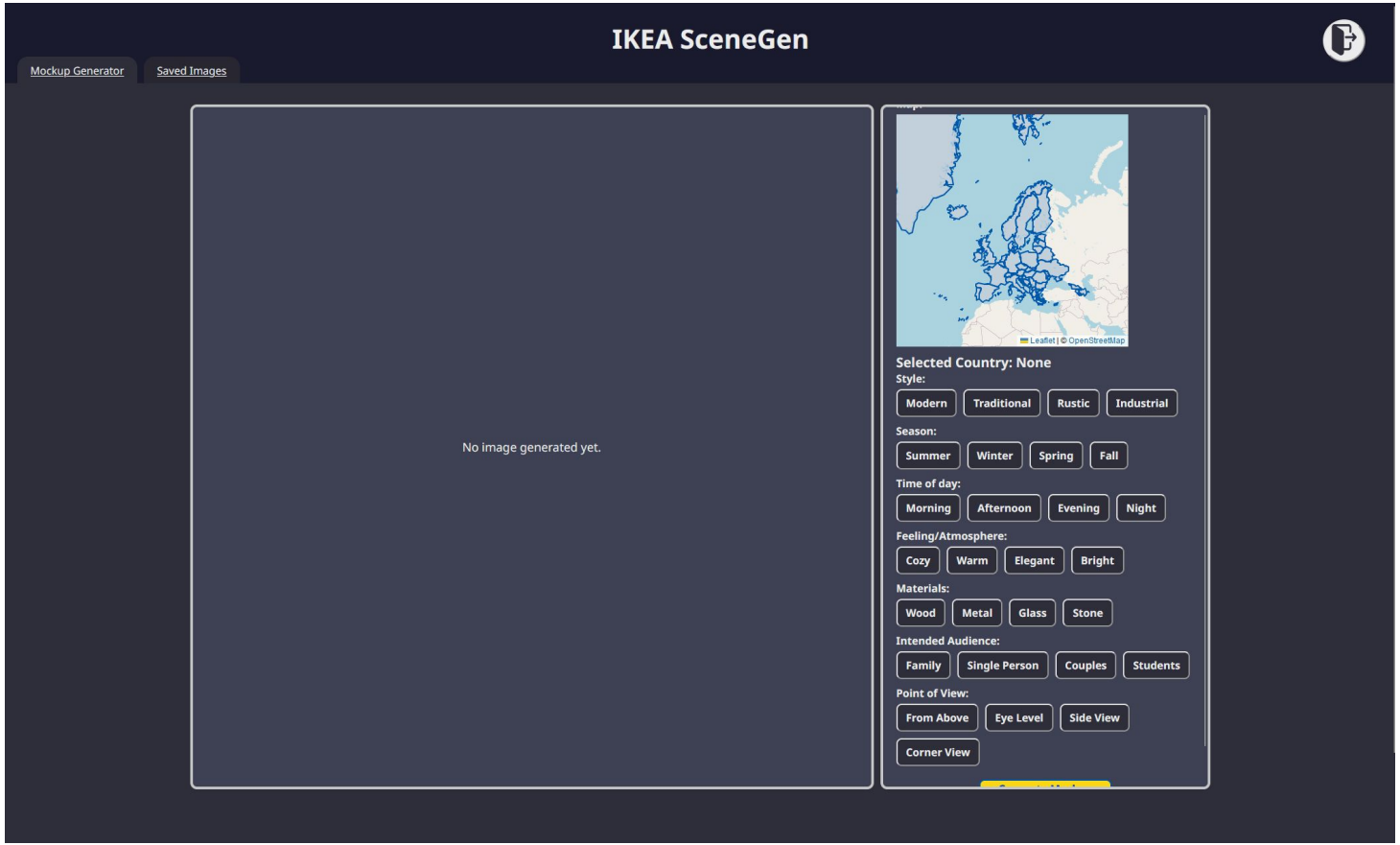


Creating a mockup of:

- “A kitchen for the **Swedish market**,
- aimed at **families** in a **modern style**
- which exudes a **warm** feeling while being set in a **winter setting**.
- parts of the kitchen to be made out of **wood and stone**.
- The image should be as if its **taken eye level**”



Personal repository of mockups



Share images with your fellow IKEA colleagues

Is it sustainable

IKEA:s Vision

Our solution helps lower costs

AI-Training

Sustainability issue? Not in the long term

Training a model takes at least 500.000kW/h[2] comparable to one 7 hour flight[2] and costs will be spread among users

Image generation cost is 0.011 kW/h as compared to the 0.7-1kW/h draw of a modern computer[3]

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Next Steps

Developing an in-house model

- Datasets
- Infrastructure

Confidentiality concerns

- Private servers
- EU regulations[1]

Conclusion

- Our AI solution complements IKEA

- Offers a scalable and sustainable way to stay ahead in the European market

- Ensures alignment with trends and seasonal changes.

Thank you for listening!

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Team members:

Matty (mattyj): mattyj@student.chalmers.se

Tim (timca): timca@student.chalmers.se

MarcoT (marcot): marcot@student.chalmers.se

MarcoS (speziale): speziale@student.chalmers.se

Felix (felixjon): felixjon@student.chalmers.se

Checkout our website!

1. Unfair commercial practices and price indication from the Consumer Protection Law under EU
2. Energy footprint of training an AI model: https://cacm.acm.org/blogcacm/the-energy-footprint-of-humans-and-large-language-models/
3. Power Hungry Processing: https://arxiv.org/pdf/2311.16863

Costs

Our current application has quite low costs to maintain, OpenAI:s DALL-E model which we use to generate the images, has a low and fixed cost per each request, the only additional cost is for hosting the website. A potential additional cost is if it’s decided to fine-tune the model with data from IKEA directly or for hardware to run a model locally.