# AI and accessibility

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# Some myths

- AI is new
- AI will replace people
- Making things accessible can be always done with AI

# AI cannot replace people

- Accessibility is about interacting with the world around you and how people with disabilities need to modify their world for accessibility
- The AI we use today was created by humans and therefore is subject to human failings
- AI cannot fully emulate human meaning and context
  - What the meaning of a image is
  - AI is not good at determining context and importance
  - AI does not know about feelings and emotions

# AI can help make things accessible, but we still need humans to verify

- We do not re-type a textbook if we need to digitize it; instead, we scan it with OCR.
- There are a lot of tools to automatically describe images, but the AI backing these tools doesn't understand context.
- The company backing the AI may not be altruistic and might describe the image in the way they think it will help their product.

# What happens when AI forgets about People that are different



Historically we know that many, many products have come out with huge gaps in their testing and or design.

But the harm these gaps cause are to real people and to the product's bottom dollar.

# iOS AI

- Face detection in Camera
- Screen Recognition
- Image Descriptions
- Live Detectors (18.0 and later).
  - People detection
  - Scene detection
  - Door detection
  - Text detection
  - Point and speak

# OCR

- If you open an image-only PDF in Google Drive/Docs it will add the text for you.
- Google Lens will read text on a piece of paper when using the camera.
- IOS also reads text when using text detection in magnifier.

# Can AI tell you if something is accessible?

- Yes and no
- Discuss

# So should we use AI for accessibility tasks?

A firm "yes, but…"

# AI Apps created to help blind people

# Guided Frame

- The AI gives verbal directions to take better pictures.
- This is an add-on to let a blind person take pictures more easily.

# Google Lookout

- This tool has interesting options, but are they useful?
  - Find an object
  - Document
  - Scene
- We begin with a picture from my trip to San Diego…

# Pipe Organ Scene

# Pipe Organ scene from Google Lookout

Image alt text:

People are sitting on benches facing a large, white, gazebo-like structure under a cloudy sky.

# Pipe Organ scene from Seeing AI

Image alt text:

The image depicts an outdoor amphitheater with a large, ornate stage structure in the background. The stage features a prominent arch with intricate detailing and a set of large organ pipes visible within the arch. The amphitheater is surrounded by tall trees, which are visible behind the stage.

In the foreground, there are several rows of benches arranged in a semi-circular fashion, facing the stage. People are seated on these benches, with their backs to the camera, observing the stage. The benches are made of a light-colored material with a perforated design.

In the center of the image, a woman with short blonde hair is seated on a bench, wearing a turquoise jacket. Next to her, a man is seated, wearing a dark baseball cap and a gray jacket. To the left, a man in a blue shirt and dark shorts is walking towards the stage, accompanied by a dog on a leash. The dog is positioned close to the ground, sniffing the pavement.

The audience is diverse, with individuals of varying ages and attire, suggesting a casual gathering. The ground is paved with interlocking bricks, and the sky above is overcast, providing a neutral backdrop to the scene.

# Pipe Organ scene from Be My Eyes

Image alt text:

An outdoor amphitheater with a large, ornate organ structure at the front. The sky is overcast, and there are many people seated on benches facing the stage. A man in a blue shirt and shorts is walking a dog on the left side of the image. The audience consists of people of various ages, some wearing jackets or hats, suggesting cooler weather. Tall trees are visible in the background behind the stage.
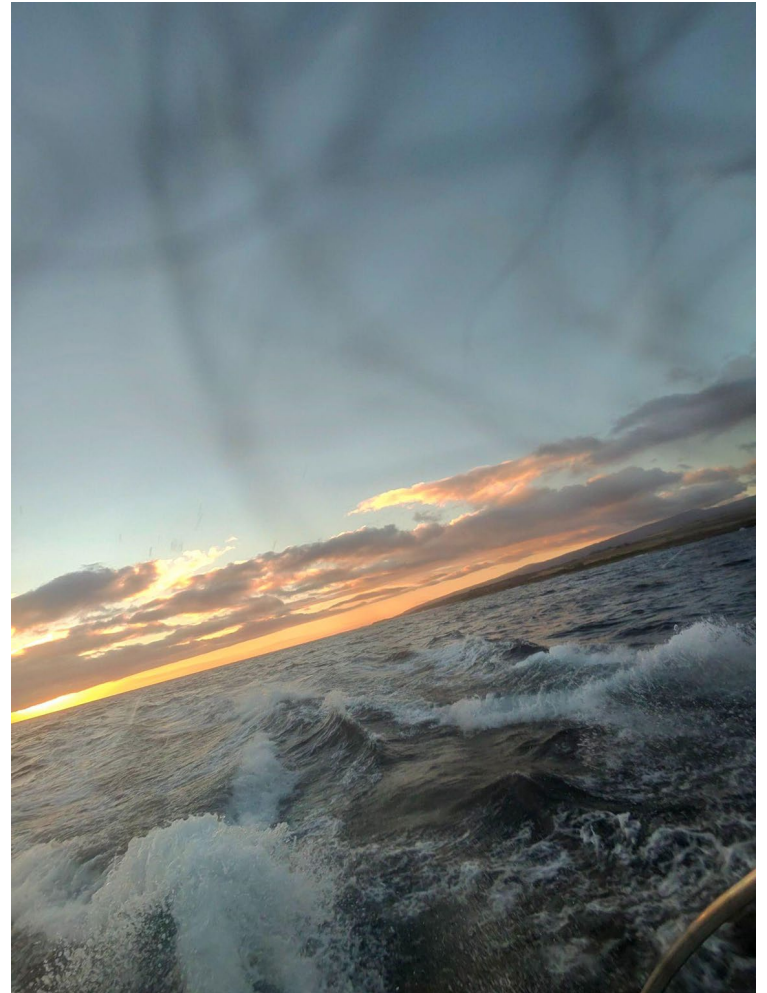
# Pipe Organ scene from Gemini from Talkback

## Image alt text:

This is a photo of a group of people sitting on benches in front of a large white building. The building has a large arched opening with a pipe organ inside. There is a lot of greenery around the building, including trees and bushes. The sky is cloudy. The people in the photo are all dressed casually.  There is a dog sitting on the ground in front of the bench. The photo is taken from a low angle, looking up at the building.

# Boat Scene

# Boat scene from Google Lookout



Image alt text:

A view of dark blue waves in the ocean from the back of a boat, with pink and orange sunset in the distance.

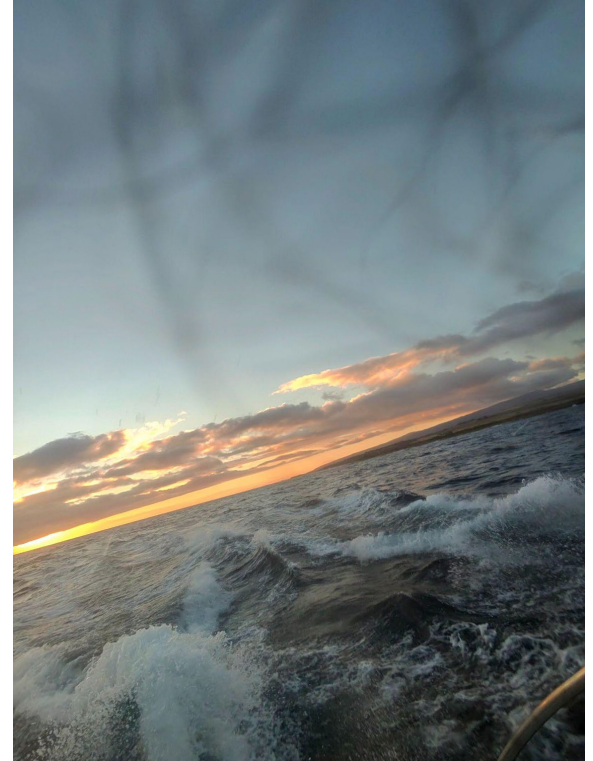# Boat scene from Seeing AI

## Image alt text:

The image captures a dynamic scene of the ocean with waves prominently in the foreground. The waves are of varying sizes, with some crests breaking and creating white foam. The ocean extends into the distance, meeting the horizon. Above the horizon, the sky is visible, with clouds scattered across it. The clouds are positioned in layers, with some appearing closer to the horizon and others higher up in the sky. The sun is setting or rising, casting a warm glow on the clouds and the water. On the right side of the image, a landmass is visible, stretching from the middle to the far right edge of the image. The land appears to be a coastline, with a gentle slope leading down to the water.
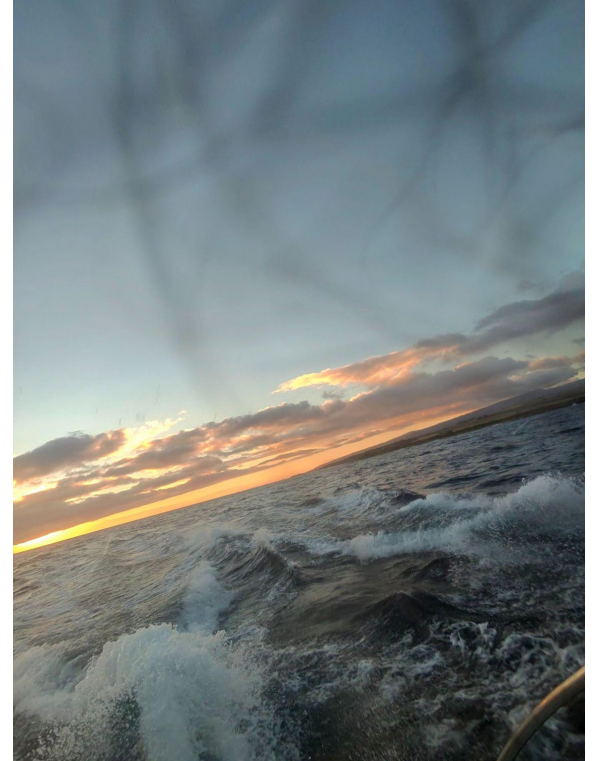
# Boat Scene from Be My Eyes

Image alt text:

A dynamic scene of the ocean with choppy waves, captured during what appears to be sunset. The sky is filled with clouds, some of which are illuminated by the warm hues of the setting sun, creating a striking contrast with the darker, cooler tones of the water. The horizon is slightly tilted, adding a sense of movement to the image. In the background, a faint outline of land is visible on the right side. The foreground shows the frothy white crests of the waves, indicating a lively sea.

# Boat Scene from Gemini

Image alt text:

The image shows a beautiful sunset over the ocean. The sun is setting in the distance, casting a warm glow over the water. The clouds are a mixture of pink, orange, and purple, and the waves are cresting and breaking. The sky is a deep blue, and the air is calm and serene. The image is a beautiful representation of nature's beauty.

# Dog Scene

# Dog scene from Google Lookout

Image alt text:

Two golden labs are snuggled up, sleeping on a grey couch. A guitar is standing in the corner.

# Dog Scene from Seeing AI

Image alt text:

Two golden retrievers are lying on a dark-colored couch. The dog in the foreground is resting its head on the armrest of the couch, with its eyes closed. Its body is curled up, and its fur is long and wavy. The second dog is positioned slightly behind the first, with its head resting on the back of the first dog. Its eyes are open, and it appears to be looking towards the camera. The couch is positioned against a wall, and a window is visible above the couch, allowing natural light to enter the room. To the right of the couch, there is an acoustic guitar leaning against the wall, next to a tall speaker. A radiator is partially visible behind the speaker, and a small portion of a patterned rug is seen on the floor near the couch.

# Dog Scene from Be My Eyes

Image alt text:

Two golden retrievers are lying on a dark gray couch. One dog is resting its head on the other, who is sleeping. The room has a window with blinds partially open, allowing light to come in. In the background, there is an acoustic guitar leaning against the wall and a tall speaker next to it. A stack of wooden folding chairs is also visible in the corner. The walls are painted green, and the floor is wooden.

# Dog Scene from Gemini

Image alt text:

Two dogs are lying on a couch. The dog in the front is a golden retriever, and the dog in the back is a white labrador retriever. The golden retriever has its head resting on the couch and its body curled up. The labrador retriever has its head resting on the golden retriever's back. The couch is a dark grey color, and the room is decorated with a guitar and a speaker. The photo was taken at an angle to show the dogs' full bodies.

# Thank you

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