Making a Smart Bridge Transparent through Online Data Visualisation

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Data Transparency in Public Space

Cameras
Record where people are positioned on the bridge. Everyone is skeletonized to anonymize the data. Only a select amount of people will have access to the raw data.

Load cells
Helps measure the weight on the bridge. From this, the balance point of the bridge can be calculated

Thermistors
The sensors in the curls of the bridge measure the temperature of the surrounding area. The other thermistors measure the temperature in the chambers under the bridge.

Displacement sensors
Detect the amount of displacement at specific locations. Shows the change in length of the bridge due to temperature difference.

Accelerometers
Activity on the bridge causes it to vibrate. These vibrations are measured by the accelerometers.
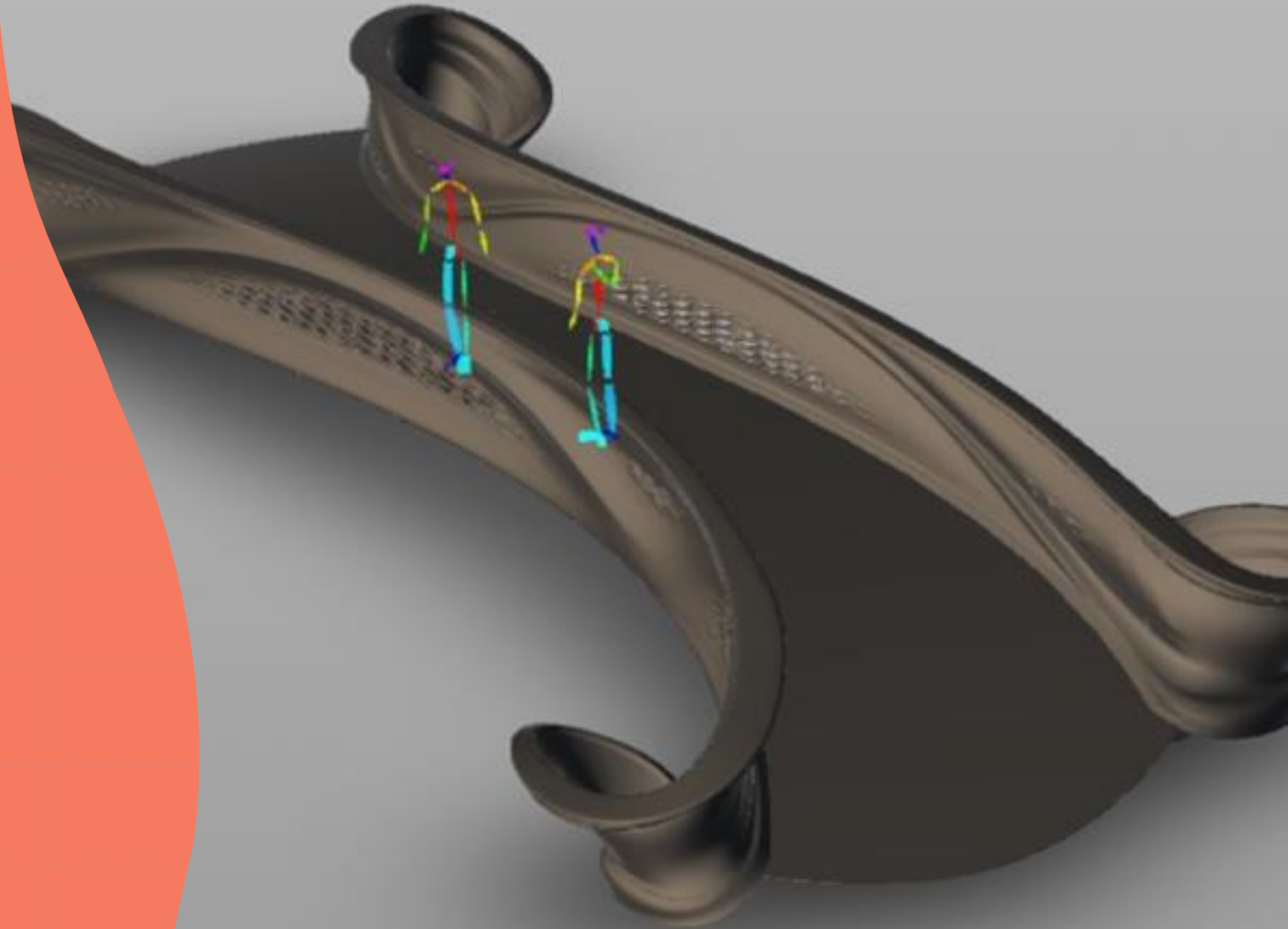
Strain gauges
Measure the deformation of the bridge on specific locations created by loads that are on it. These sensors can help pinpoint the location of loads (such as people) on the bridge.
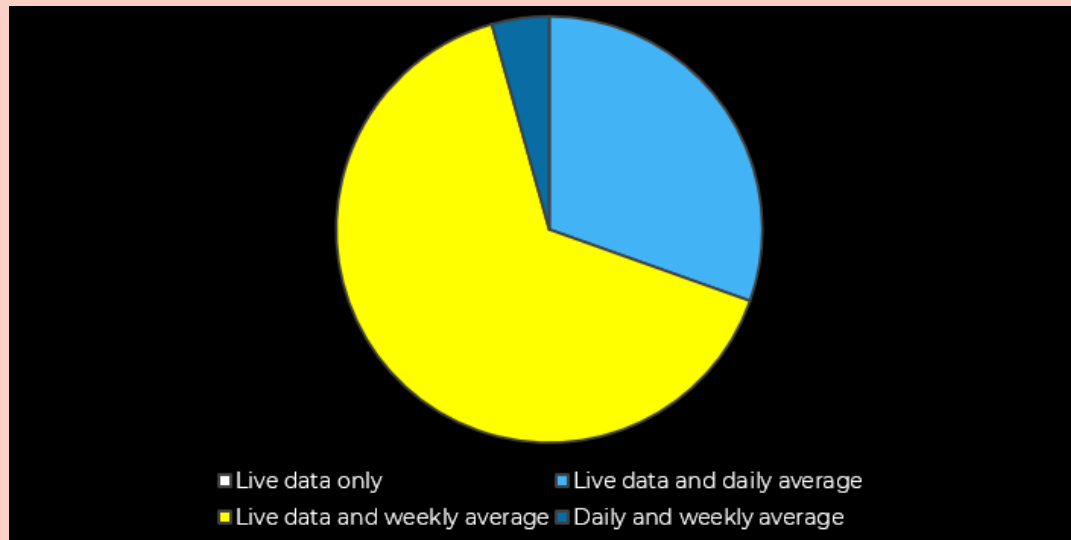
Inclinometers
Measure the rotations on the bridge caused by loads that are on it and changes in temperature.
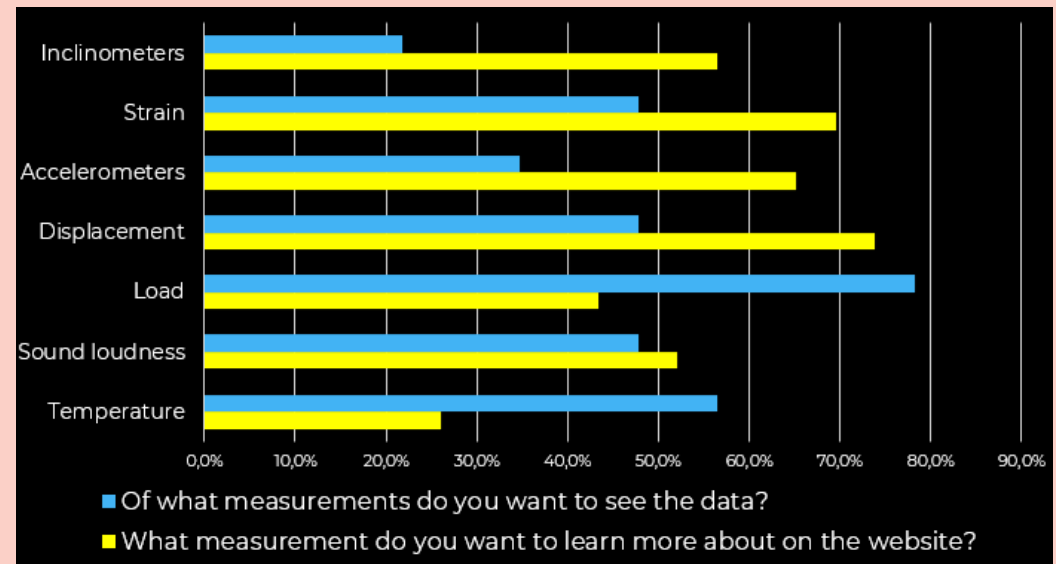
Research

"Would you like to see live measurements from the sensors, or also averages of previously measured data?"
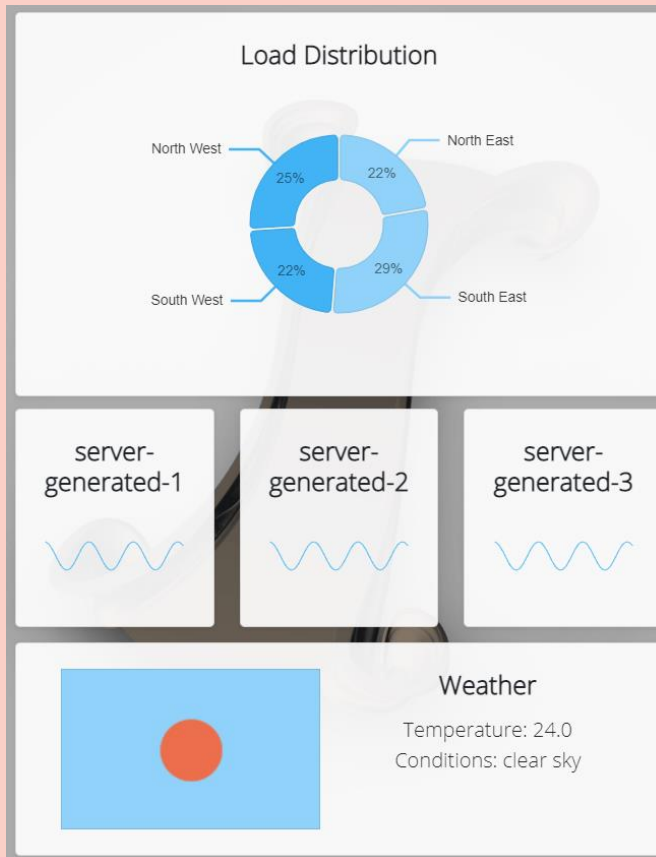

Legend:
- Live data only
- Live data and daily average
- Live data and weekly average
- Daily and weekly average

Live data measurements and Sensor information

Categories (top to bottom): Inclinometers, Strain, Accelerometers, Displacement, Load, Sound loudness, Temperature

Legend:
- Of what measurements do you want to see the data?
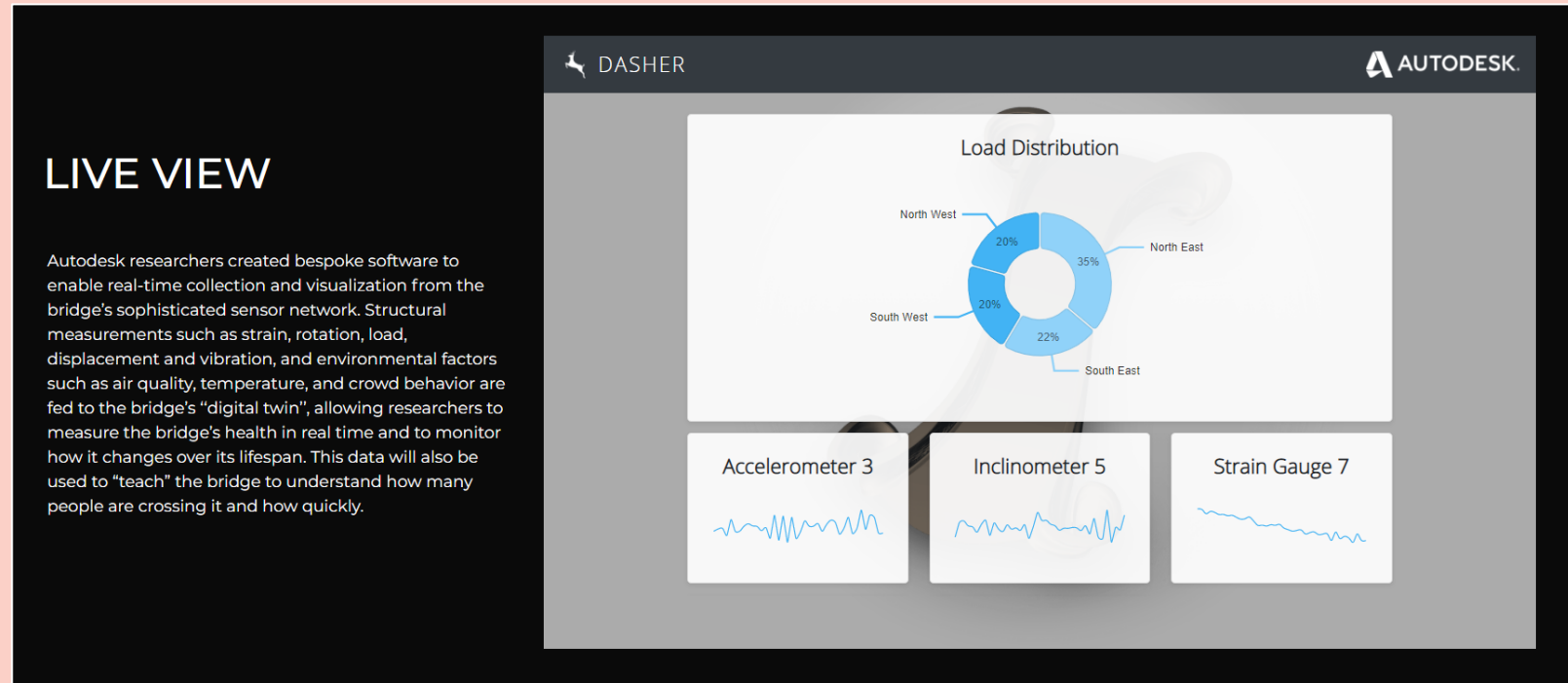- What measurement do you want to learn more about on the website?

Design

My concept

The current website

Smartbridgeamsterdam.com