

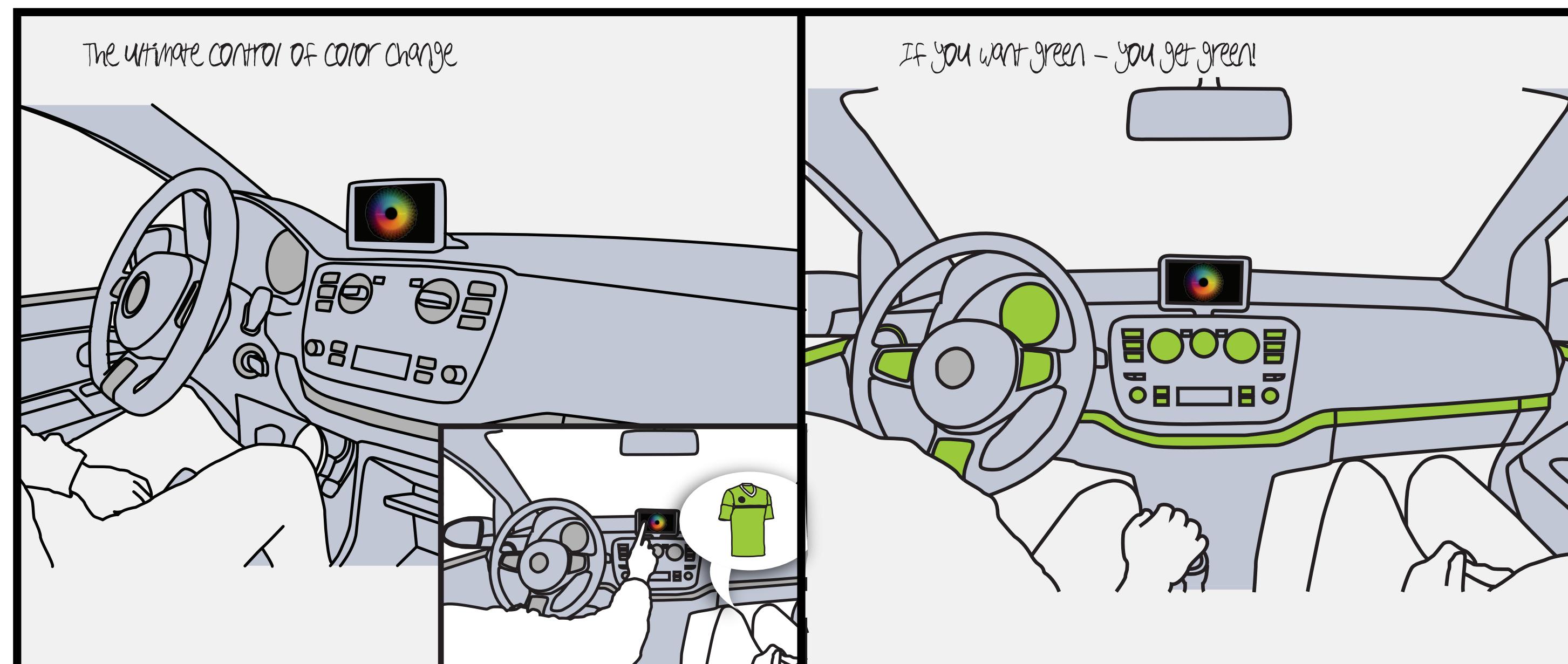
HOW CAN WE CREATE ATMOSPHERIC EXPERIENCES IN A SHARED-CAR?

Color-changing panels support personalized color choices and display of ambient information

PERSONALISATION
FAMILY



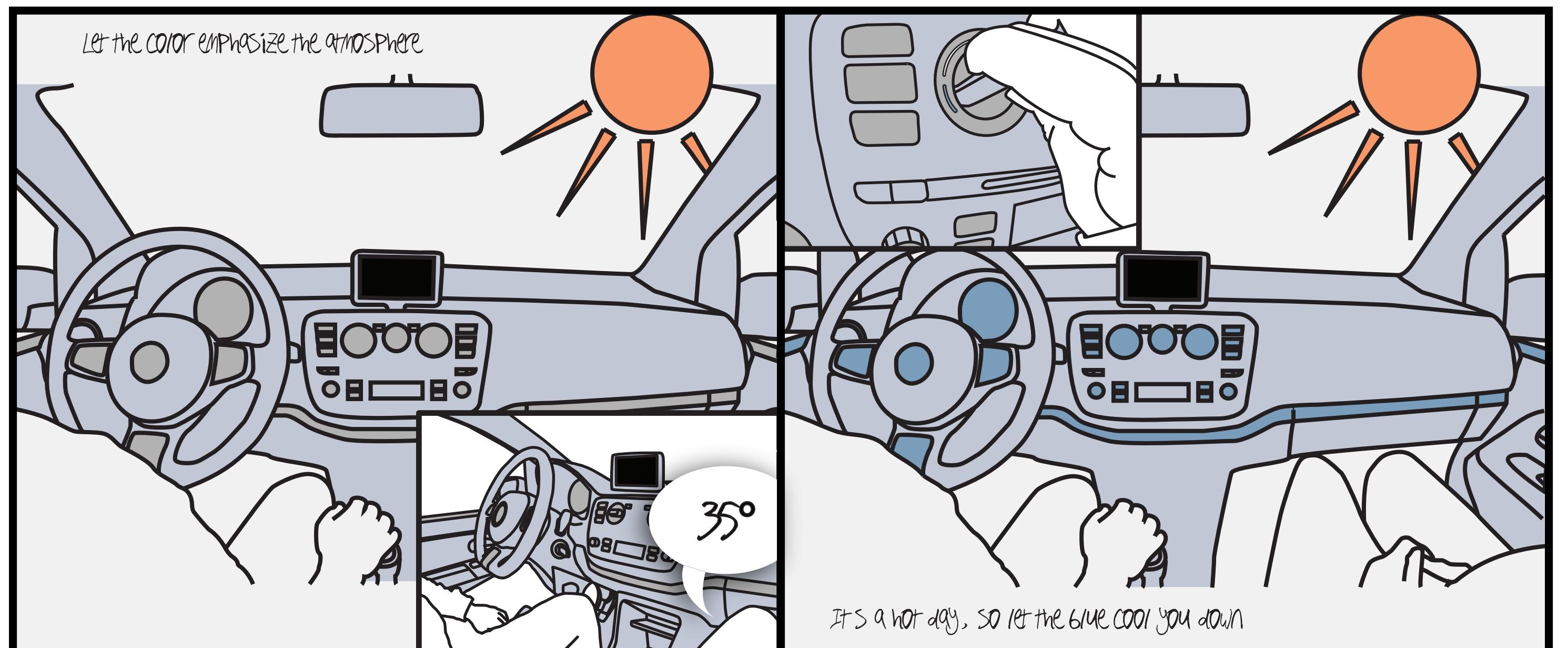
SCENARIO 1



The family is using a shared car. They want to pick the perfect color for their trip because they are going to see their favorite football team today. To make sure that everybody is ready for the match, dad changes the interior atmosphere color to green.

The color in the interior changes to green. They are now more excited about the match in Wolfsburg and looking forward to attending the game.

SCENARIO 2



The family is on holiday and due to the warm weather, they choose to turn on the A/C to get a cooler climate.

The system utilizes a state-based algorithm to select the appropriate interior colors (cold blue), this creates a cooling atmosphere and a more comfortable feeling for the family while the climate control system works to cool the air in the cabin.

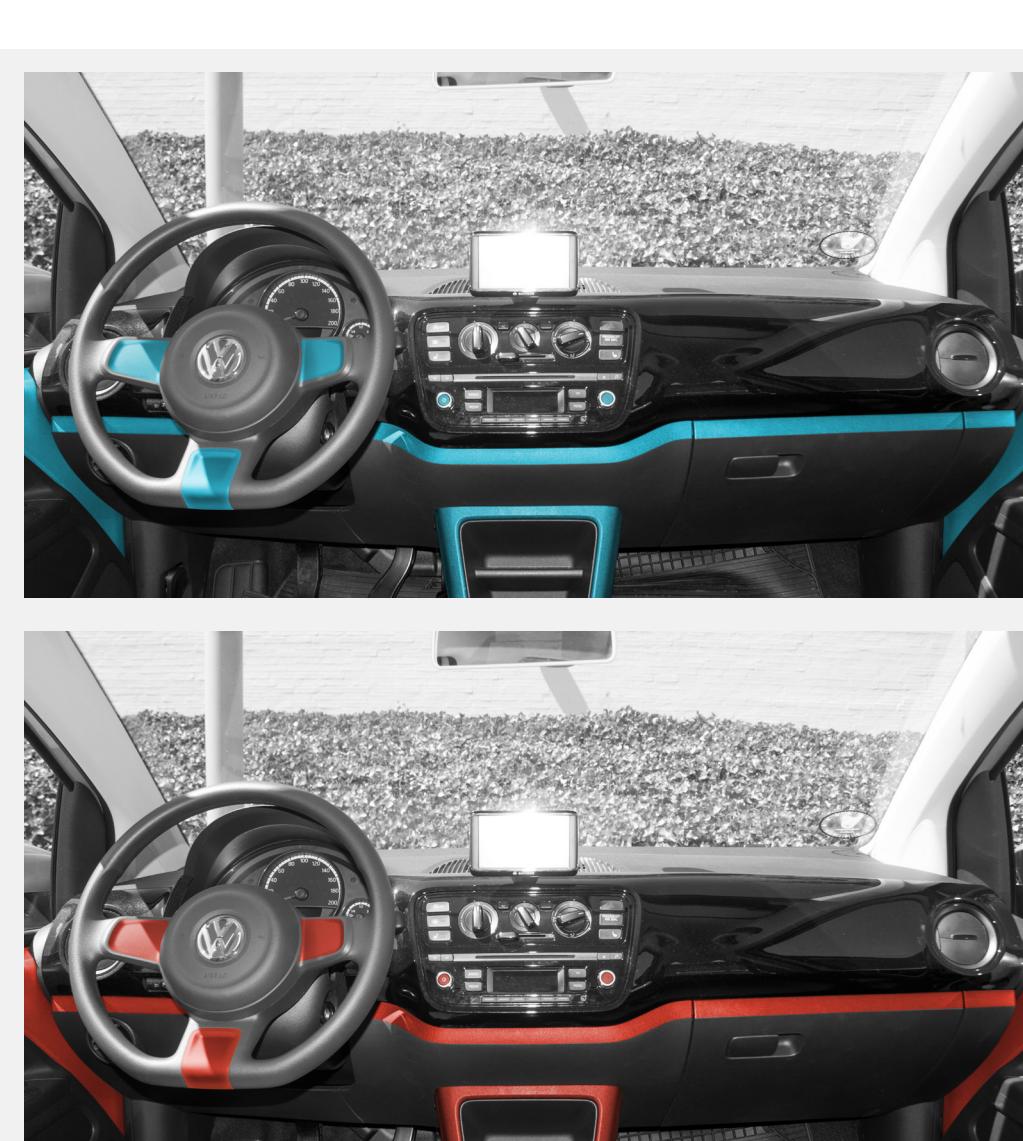
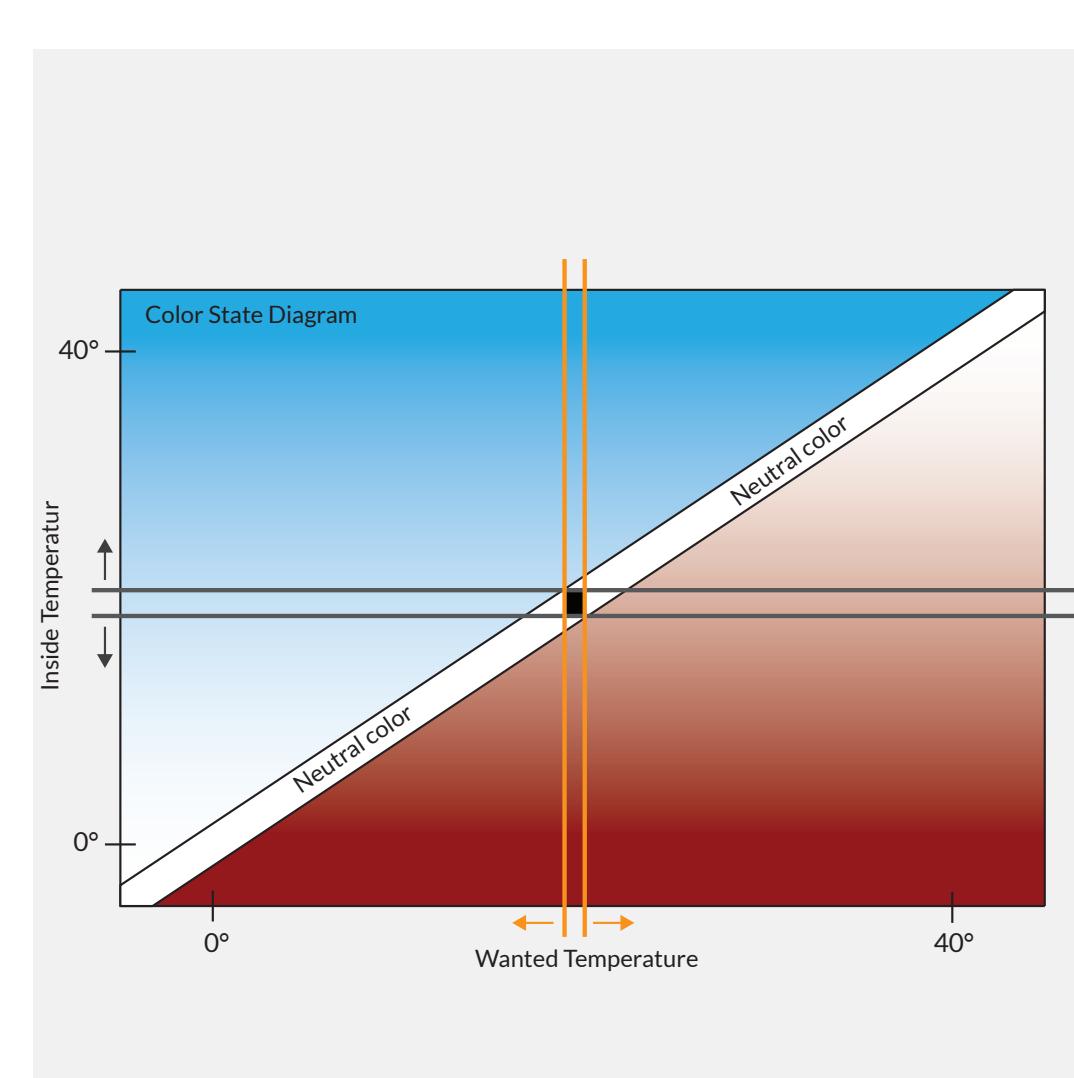
CONCEPT

Motivation

Through research we have identified the need for customization of car interiors resulting in our prototype which "redefines luxury" for passengers.

Buyers in lower price ranges look for an affordable car and every decision is based on the expense; color choices are often grey or other neutral shades. However, buyers of expensive cars customize the interior to fit their taste; freely choosing the color and materials. In exceptional cases, owners change the interior frequently regardless of the expense. This suggests that people desire dynamic color customization.

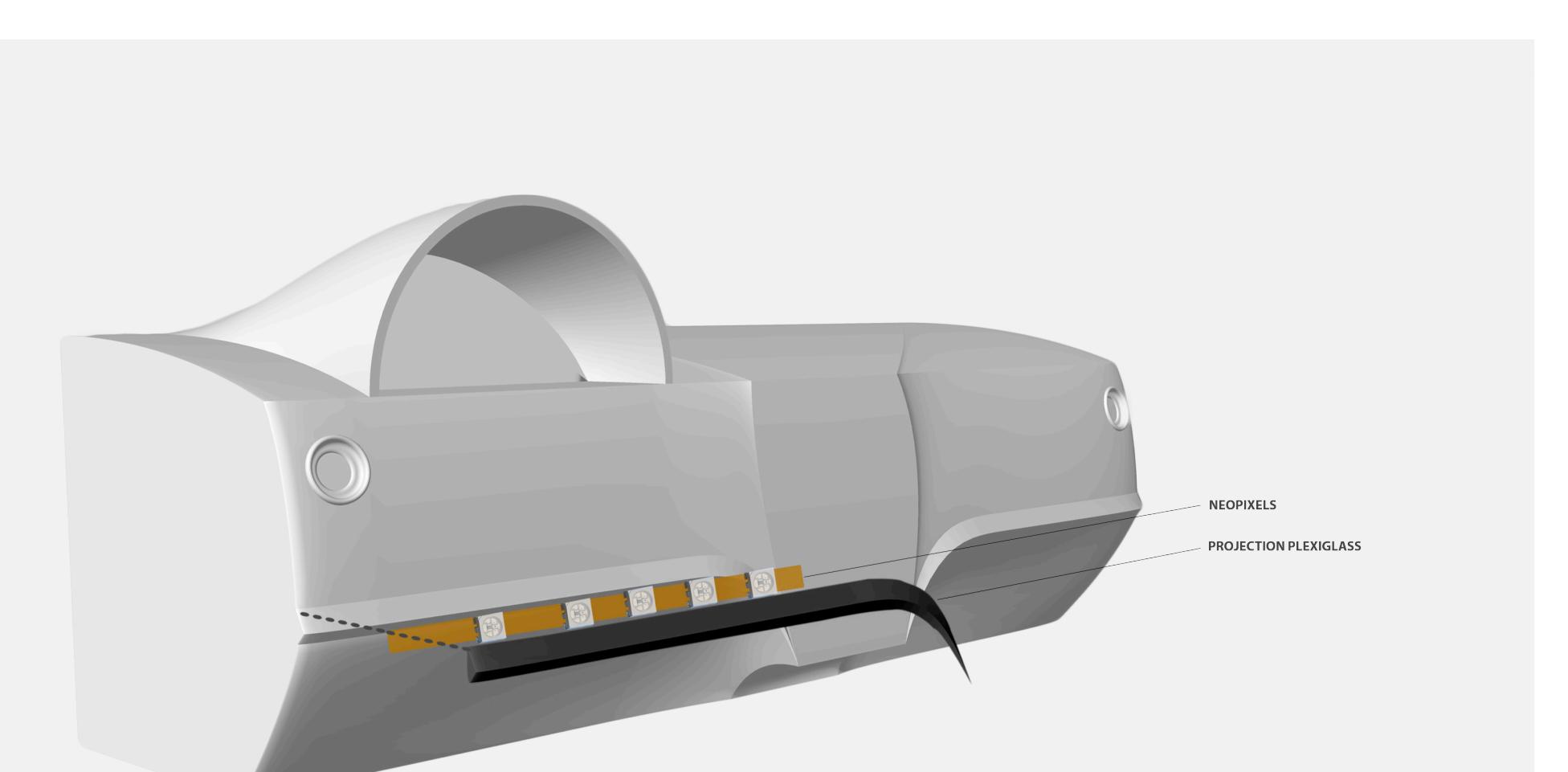
When color changes are dynamic, new possibilities for passenger experience become possible. Atmospheric experiences can be supported by exploiting findings from the field of color psychology.



Two key techniques provide for dynamic color changes including both emissive and non-emissive light. Each results in key differences in the visual aesthetic.

Emissive light

RGB (Red, Green, Blue) colored LEDs (light emitting diodes) are placed behind semi-transparent acrylic trim elements. The color of the emitted light is selected from a palette of more than 16.5 million colors. This allows for fine control for personalized color choices by the passengers. Digital control of the color palette also enables a wide range of car-controlled color change events.



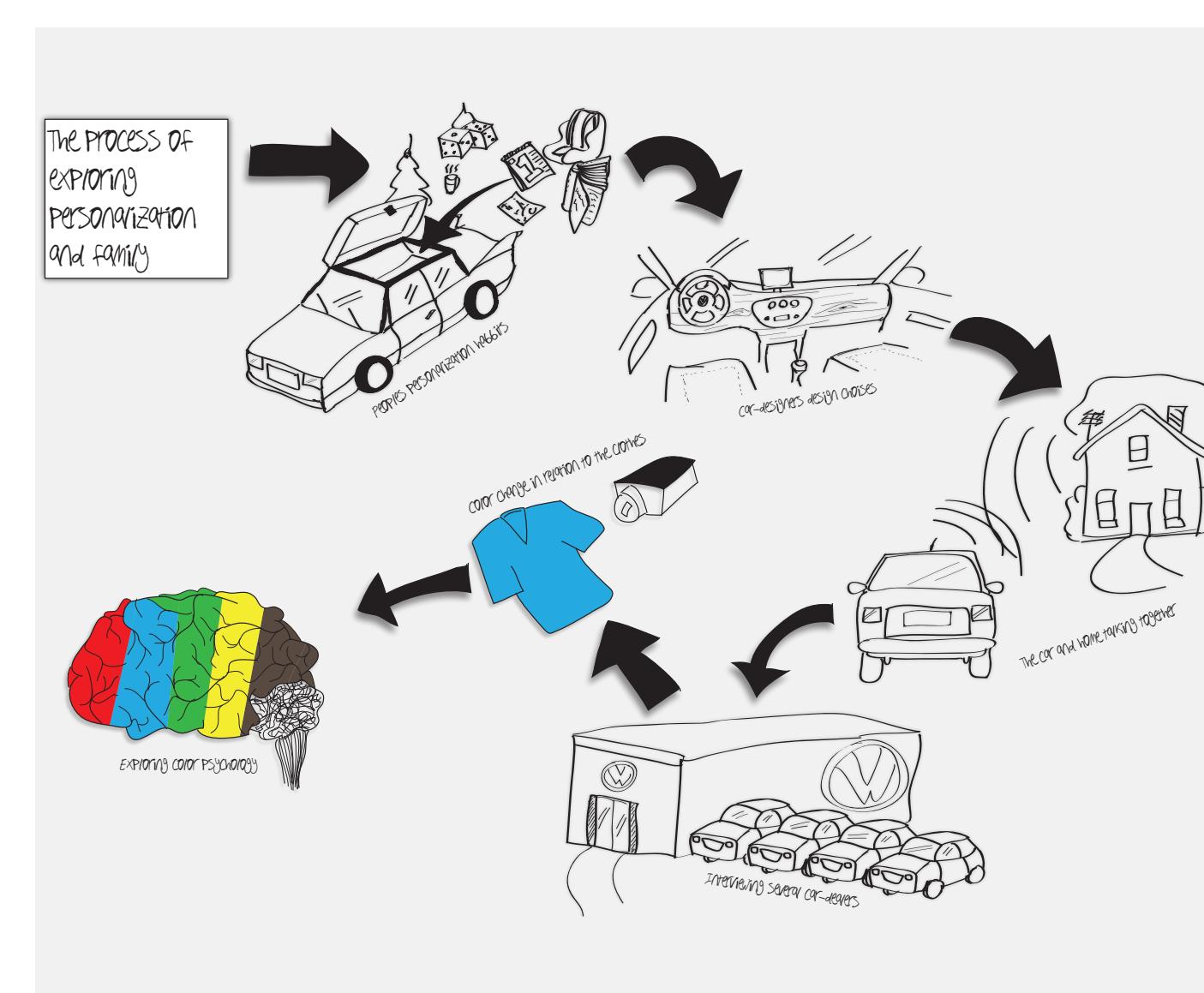
Concept description

Process

ColorSphere is a dynamic color control system for the interior of the car that creates and supports a personalized atmosphere. Passengers can choose the interior colors for the car as desired.

Interviews showed that interior color and texture is a desired outlet for self-expression. Through brainstorming and bodystorming we explored ways to support this desire through interior design elements.

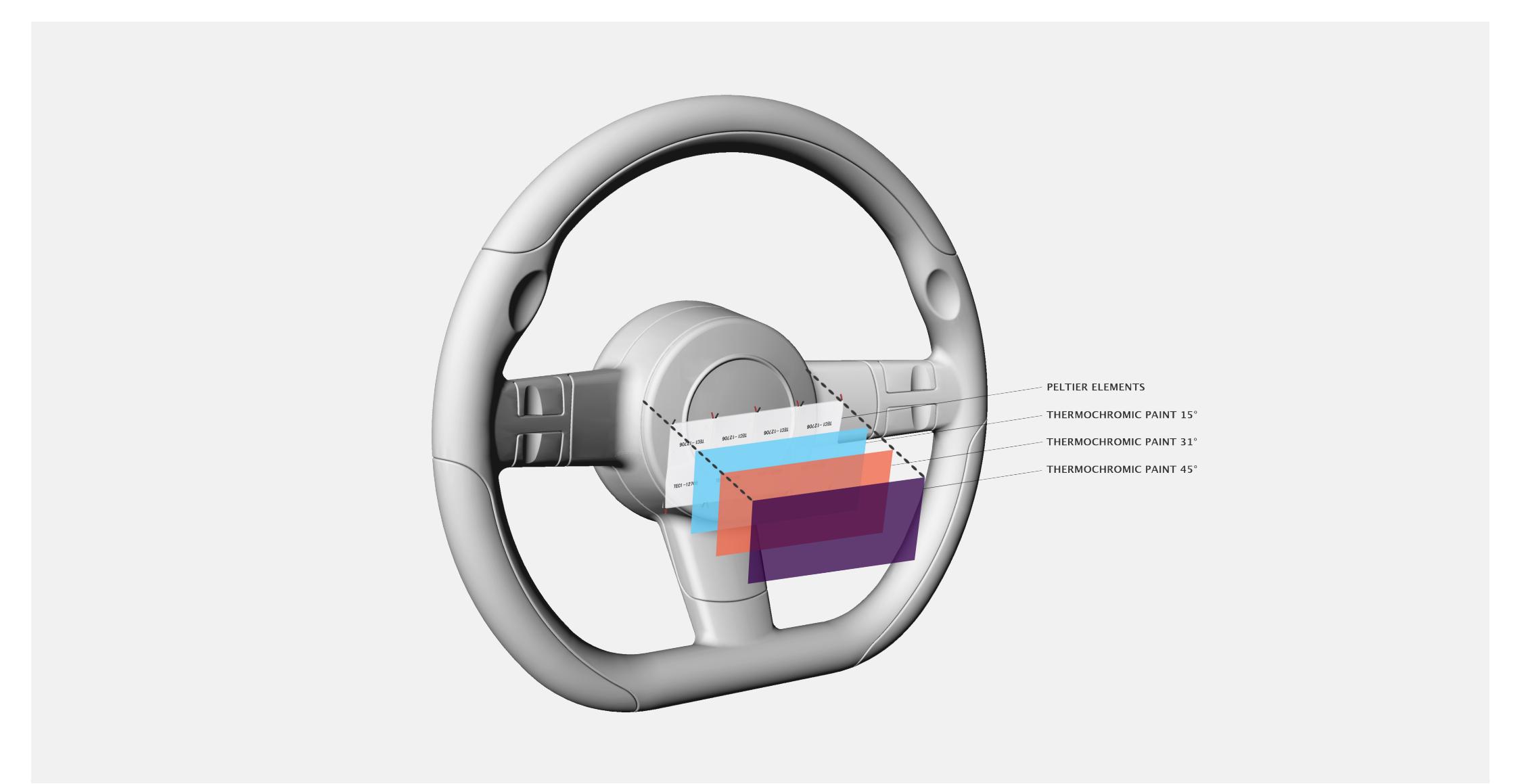
Through research on designing for atmospheric experiences (Sofie Kinch 2014), we explored design qualities that could influence middle-ground experiences. Findings from the field of color psychology are built into the control system to support the desired atmospheres. Color changes are limited to specific trim elements to fit within the existing car design.



Non-emissive light

Peltier modules are embedded beneath surfaces that are coated with thermochromic paint to change the color of interior surfaces.

The non-emissive light is less attention-demanding for the driver and also less distracting for the passengers in the car.



Mads



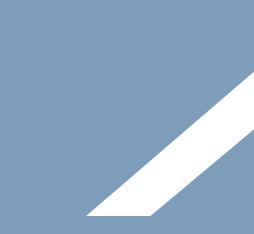
Tine



Lars



Daniel



AARHUS UNIVERSITY
INNOVATION PROJECT 2014