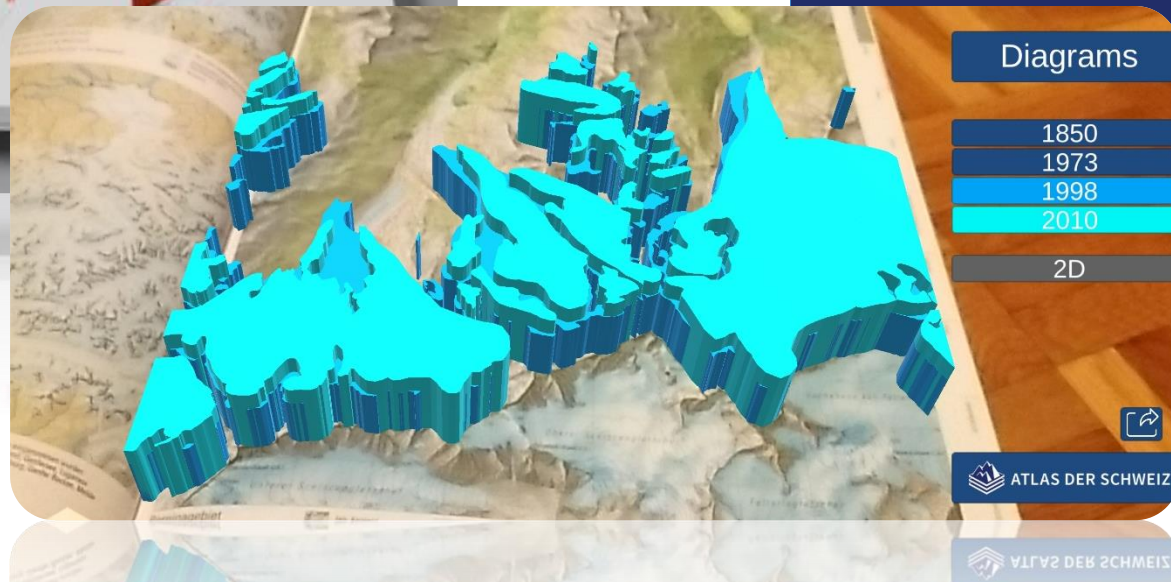
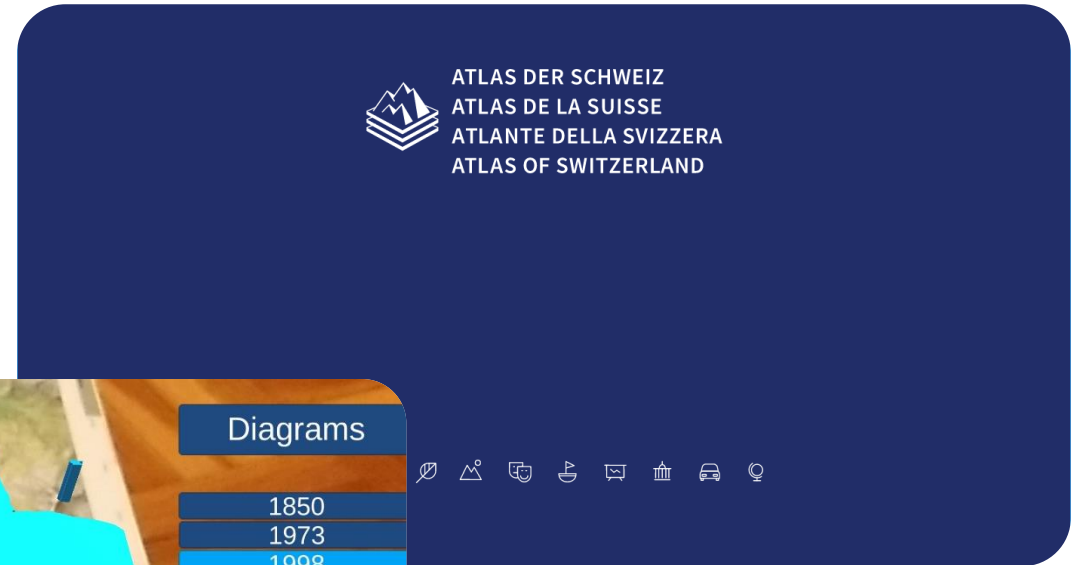


# Augmented Reality for Printed School Atlases

<http://www.karto.ethz.ch/forschung/swa.htm>

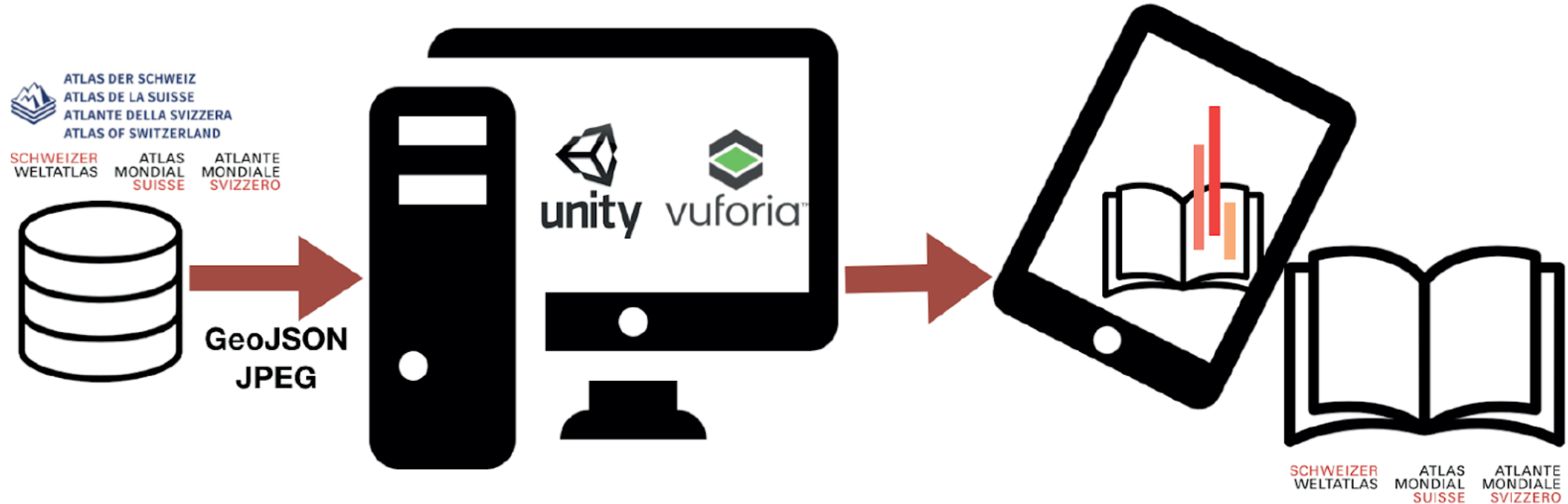


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External Supervisor: Mattia Ryffel

# Workflow



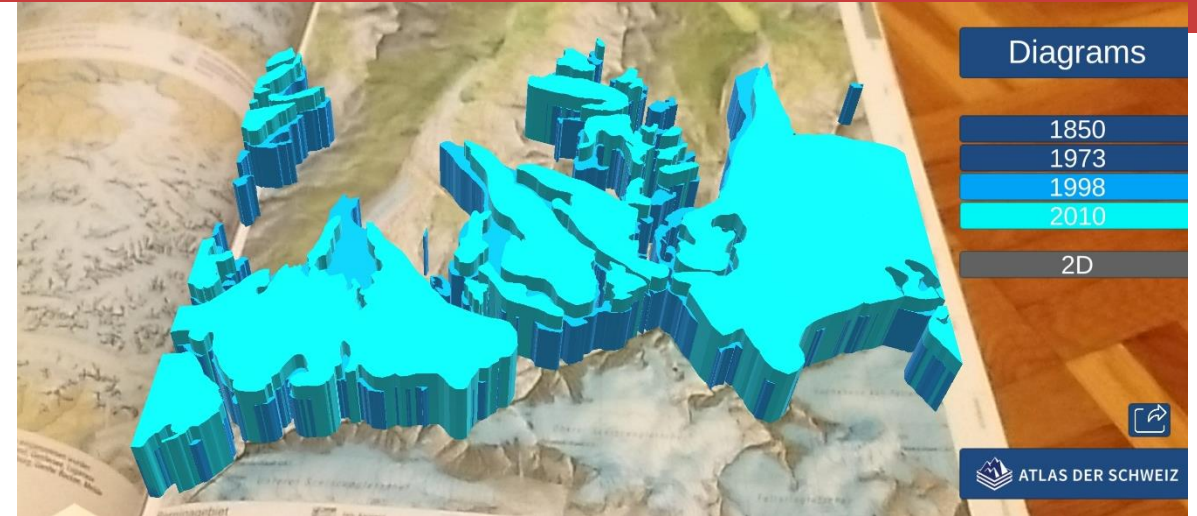
- GeoJSON files
- Shapefiles
- Tables
- Pictures

- Unity + Vuforia
- QGIS + Blender
- C# scripts
- .NET framework (JSON, GeoJSON)

- 2D/3D visualizations on tablet with AR overlaying the Swiss World Atlas

# Glacier Map

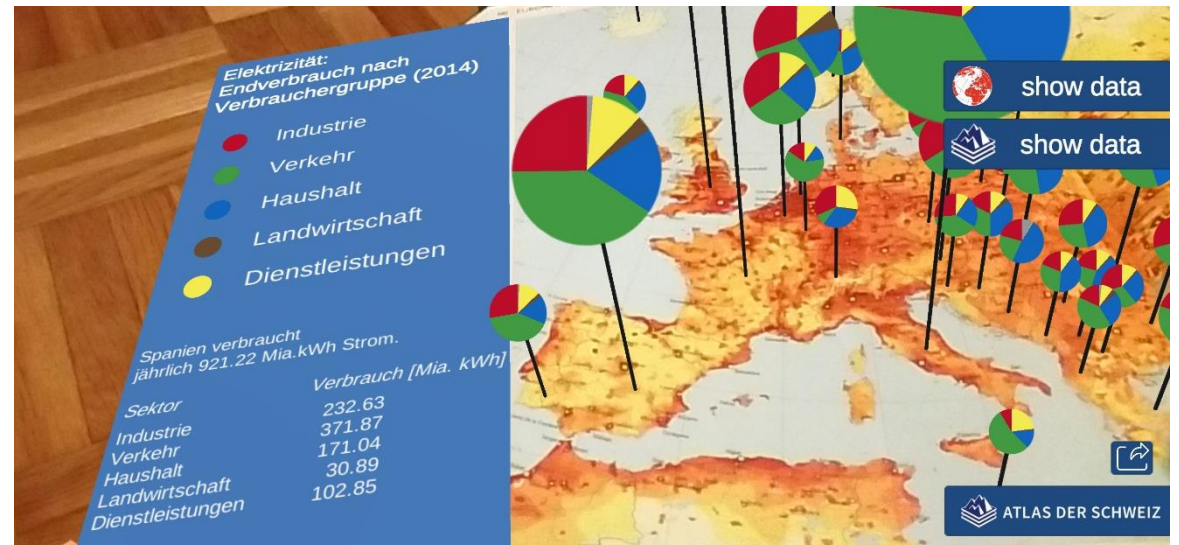
- Visualization of glacier extents of different years with:
  - Surfaces
  - Extruded polygons
- «Stacked cuboid» diagrams of the volumes of the glaciers in different years
  - Data query on click
  - Legend





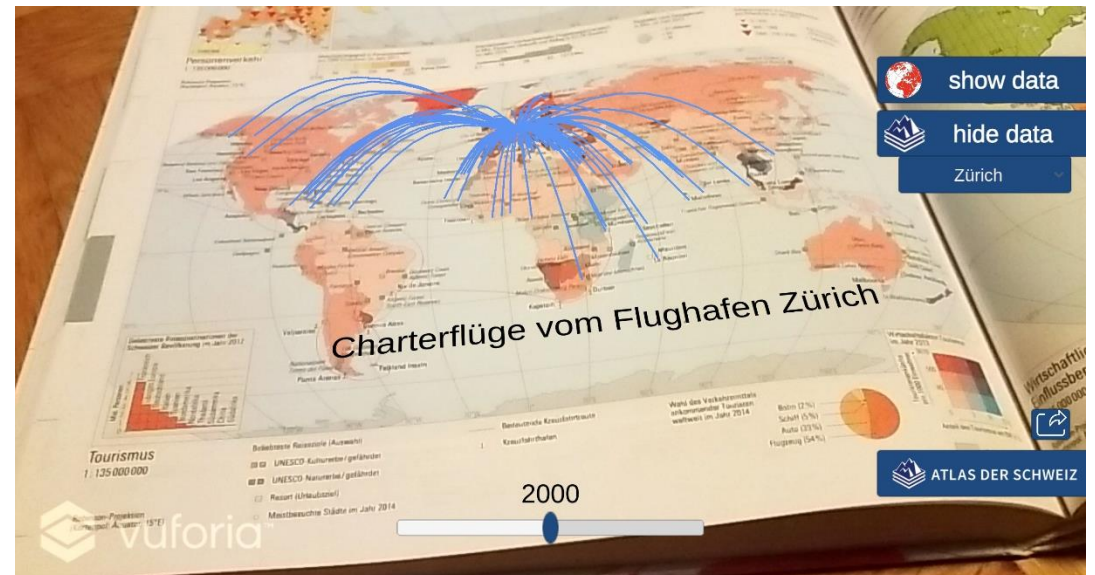
# Population Density Map

- Point cloud visualization of the population density in Europe
- «Pie chart» billboards of the energy consumer groups per country
  - Legend
  - Data query on click
- Difficulty: Map extends over two pages  
Curved map in the middle

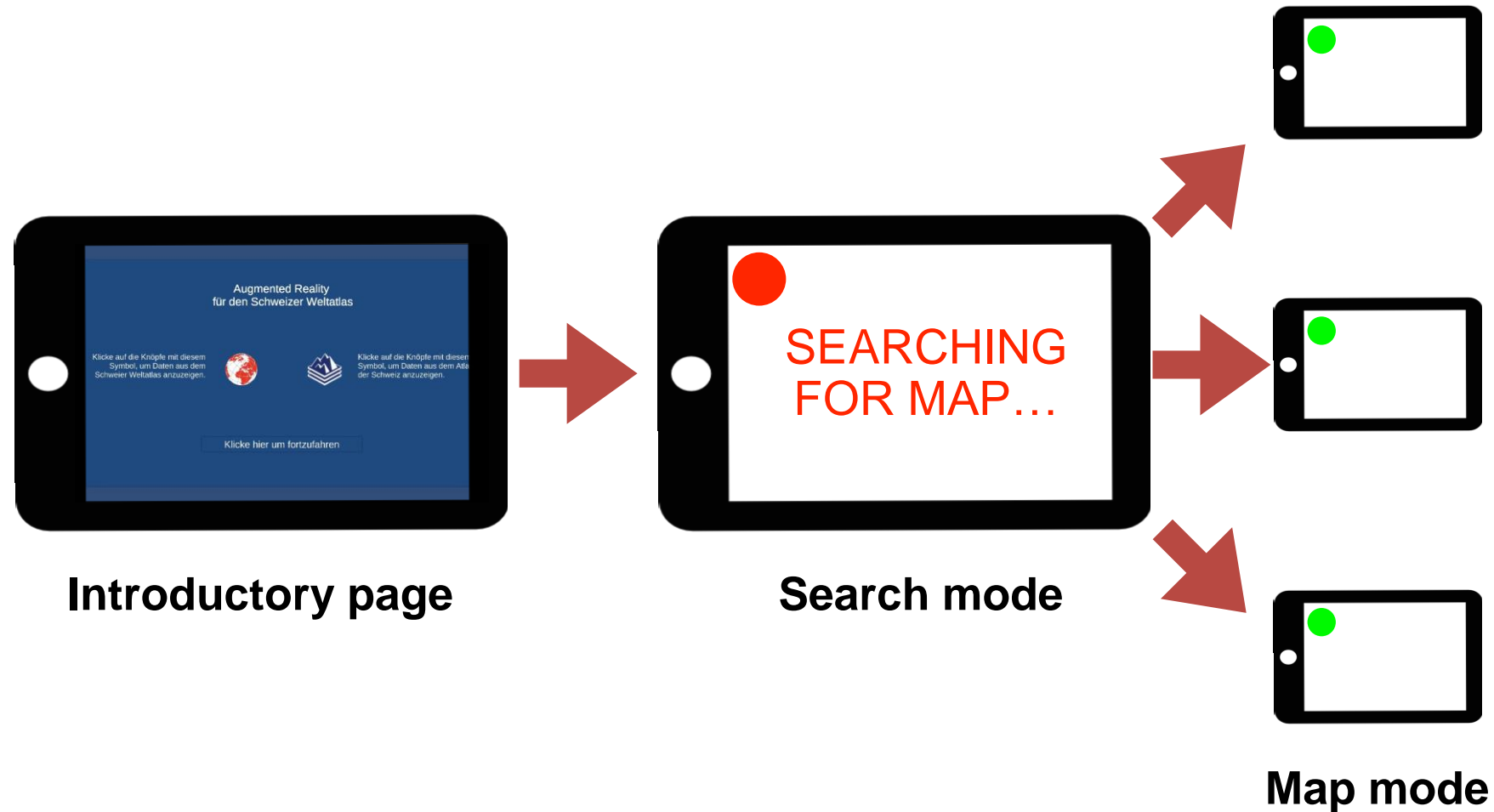


# Tourism Map

- 3D bar charts to display the most popular destinations for Swiss citizens
  - Data query on click
  - Countries & continents visualized
- Charter flights from different Swiss airports visualized with 3D trajectories
  - Time slider to display different years
  - Dropdown to select airport
- Outlook: Animation and data query for charter flights



# Graphical User Interface (GUI)



- Simple
- Clear
- GUI elements:
  - Buttons
  - Share button
  - Link to «Schweizer Weltatlas»
- Inputs according to map:
  - Dropdown Menu
  - Slider
  - Feature query

# Augmented Reality for Printed School Atlases

Interdisciplinary Project Work