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Animated Scatterplot – Analysis of Time-Oriented Data of Diabetes Patients

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Introduction

Topic: System based on animation to analyse data of diabetes patients/Evaluation Study

Problem: Large amount of data from different sources; over large periods of time

Goal of the system: comparison of patients; identification of trends in the data (e.g. of the influence of medication)

Animation: Does it Help?

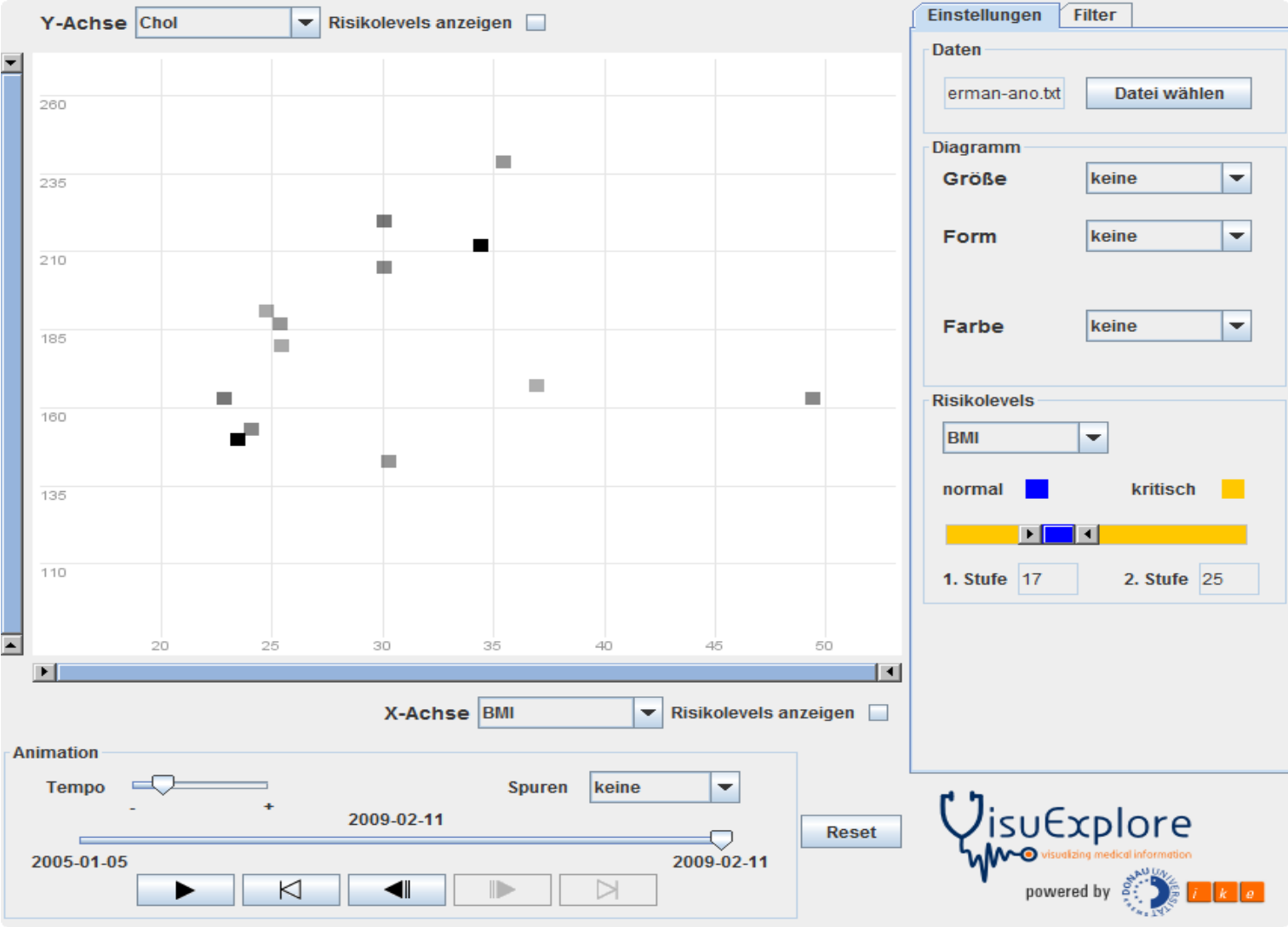
Controversial issue:

Can be very confusing (Robertson et al 2008)

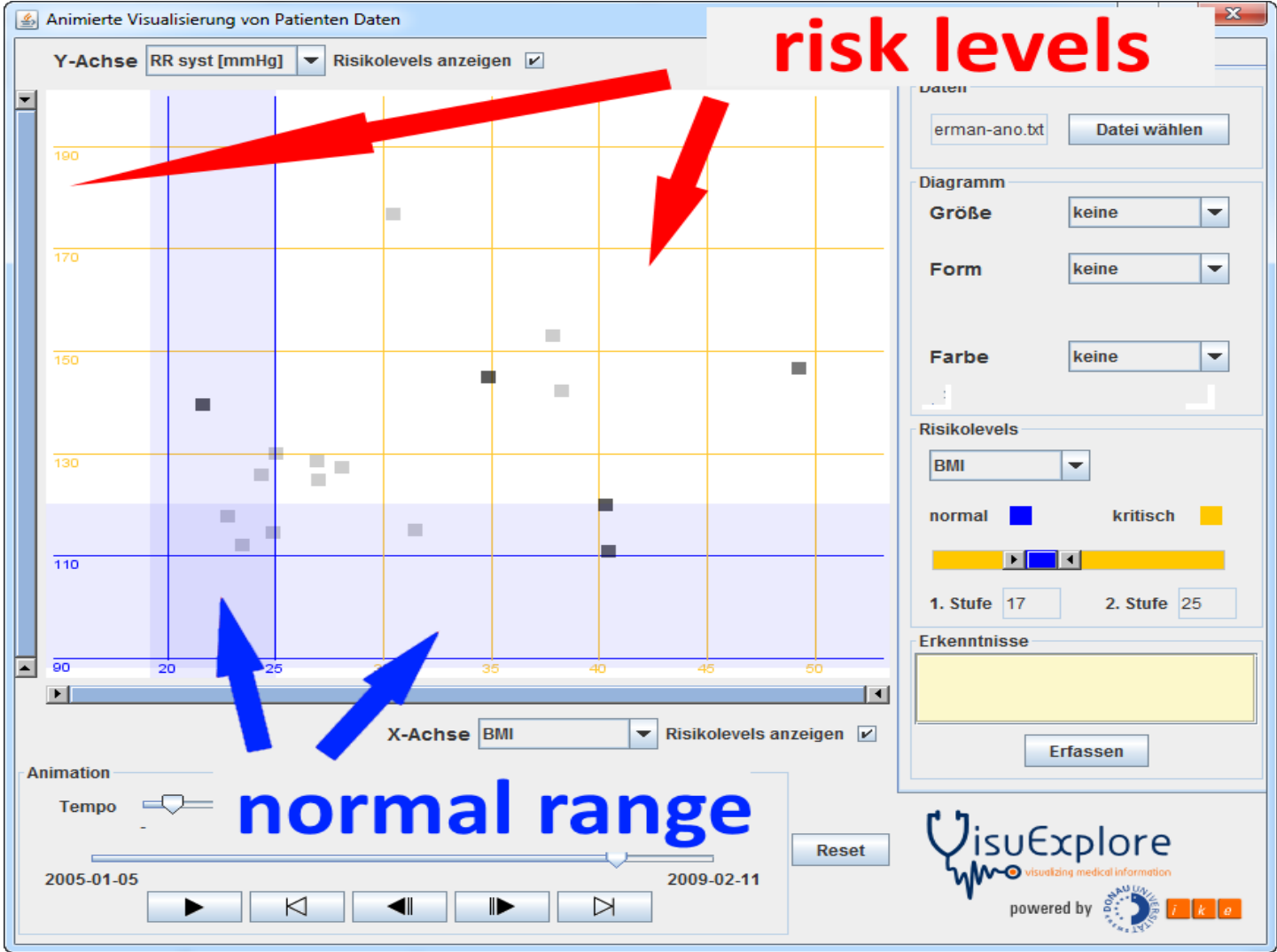
Useful if combined with interaction (Tversky et al 2002)

Useful for perceiving trends over time (Griffin et al 2006)

The Animated Scatterplot System 1



The Animated Scatterplot System 2



Description of the Evaluation Study

Participation of 10 physicians

Participants had to solve 4 tasks

Methods:

- Thinking aloud + screen capture

- Content Analysis

- Interviews

Example for a Task

Parameters: x-axis: NBZ (fasting glucose level)
y-axis: RR diast (mmHG) (diastolic blood pressure)

Task description: Limit the data set to $\text{NBZ} < 100$; $\text{RR diast} < 80$. Choose a setting that gives a good overview of the trends of the patients. Which patients shows a favorable trend? What is the general trend of the group? Explore at will. Describe your findings.

Results

Participants could solve all tasks

Possibility to show groups of patients at several points in time was appreciated

It took participants some time to adapt to the system

Interaction possibilities were important

Usability problems: example - risk level