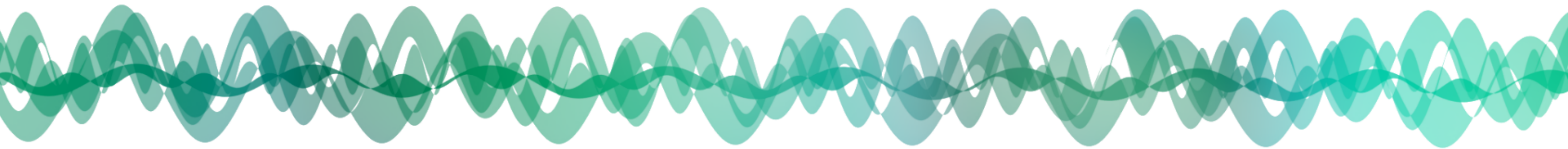


Raumakustik Web-App

Medieninformatik-Softwareprojekt



Hilft Architekten und Bauingenieurinnen, die...

Konzeption und Umsetzung:

Anton Stötzer (Medieninformatik, 5. Sem.)

Betreuer, Hochschule der Medien:

Joachim Charzinski

Raumakustik-Team, Fraunhofer IBP:

Moritz Späh, Xiaoru Zhou, Benjamin Müller

- **Nachhallzeit** rechteckiger Räume vorherzusagen
- Raumakustik zu optimieren für **Musik/Sprache/Unterricht/Sport**
- Anforderungen nach DIN 18041 zu erfüllen
- Absorptionswirkung von Materialien einzuschätzen

Plattform:
Web-App

Framework:
Vue.js + Vuetify

Progr.-Sprache:
Typescript

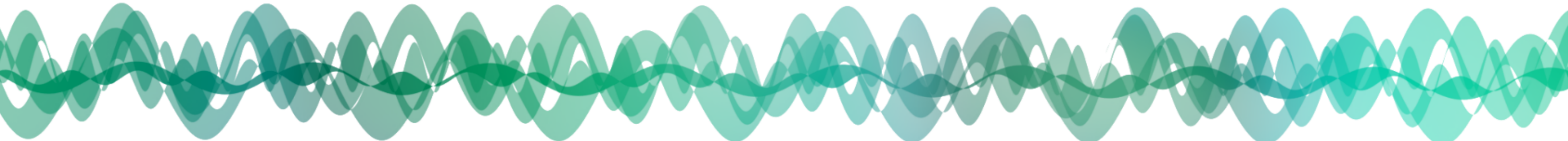
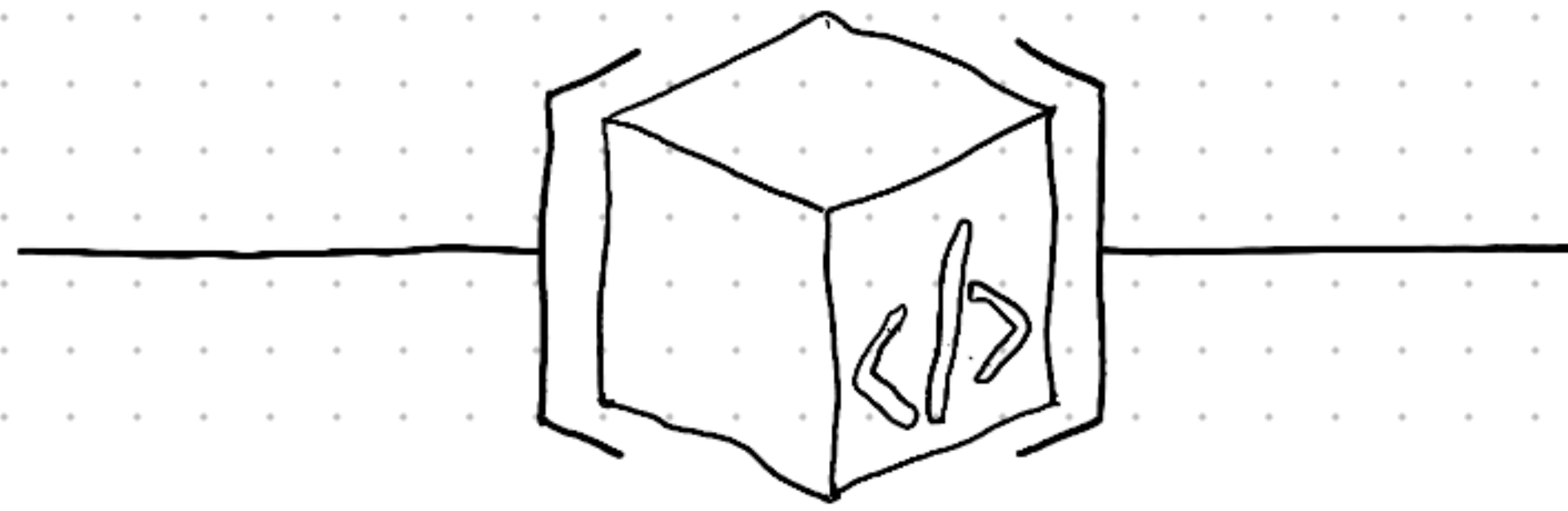
Tooling:
VS-Code

CI-/CD-Pipeline:
Azure DevOps

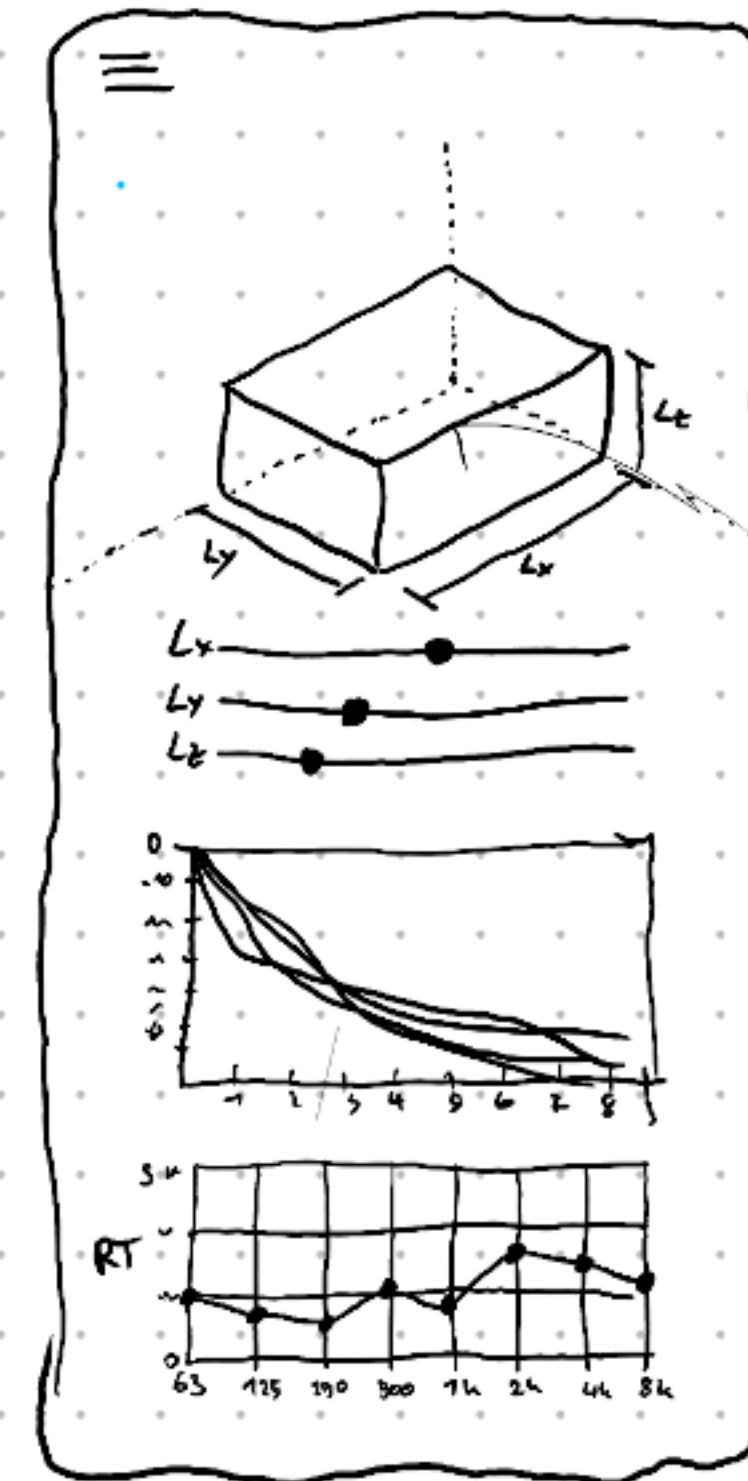
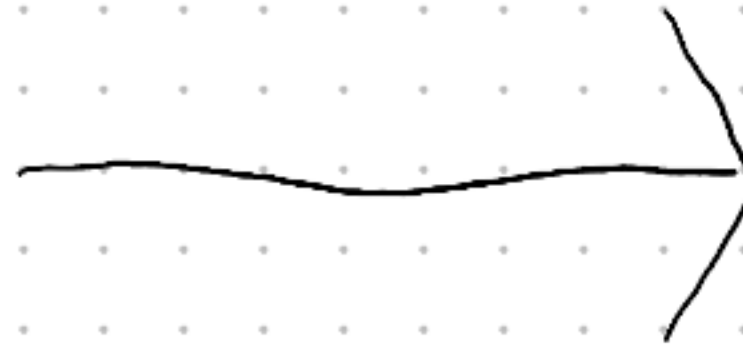
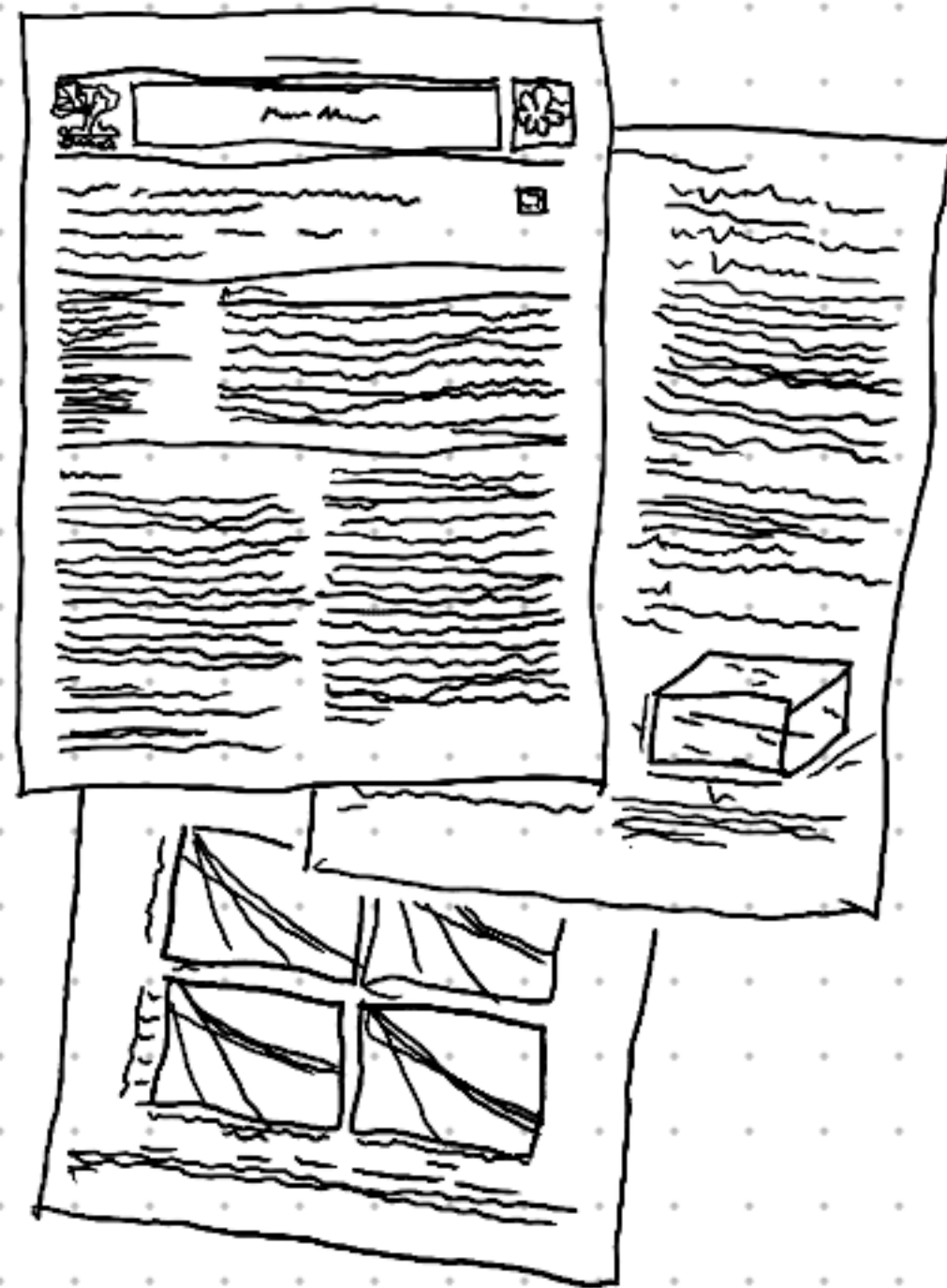
Unit-Tests:
Jest

Diagramme:
SVG

Titelbild:
Blender



Zhou et al. 2021:
Predict reverberation time [..]



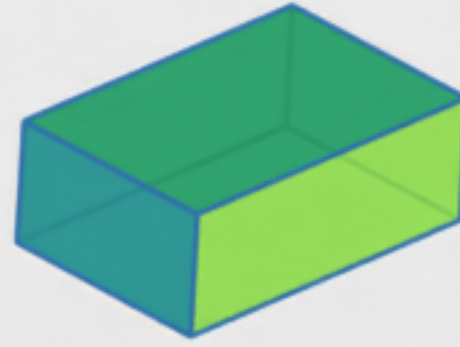
- A1: Music
- A2: Language/Lecture
- A3: Teaching/Communication and Language/Lecture inclusive
- A4: Teaching/Communication inclusive
- A5: Sport

choose later

Room Dimensions

Room Dimensions

Specify the room's width, length and height:

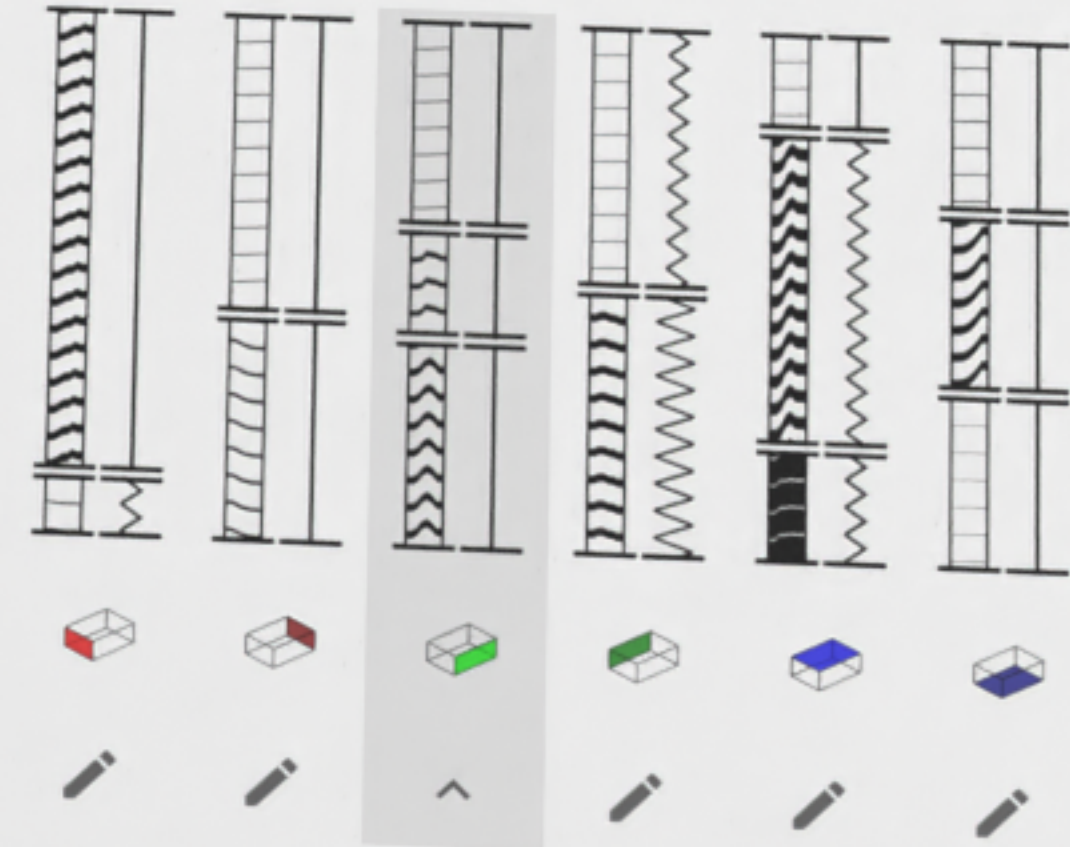


L_x
10

m

L_y

Specify the acoustical properties of each wall separately. To assign multiple absorption/scattering materials per wall, create subdivisions.

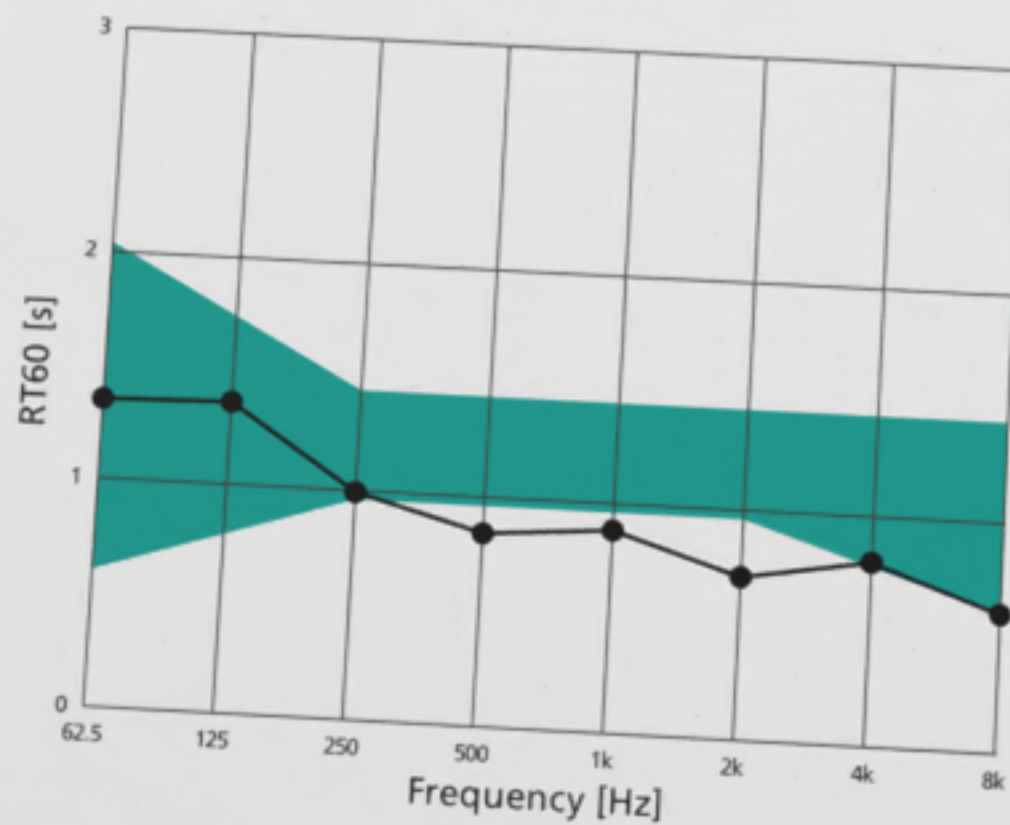


Wall Subdivisions

<input type="checkbox"/>	Area [m ²]	Absorption	
<input checked="" type="checkbox"/>	19	Tapet	<input type="checkbox"/>
<input type="checkbox"/>	10	Kinol	<input type="checkbox"/>
<input checked="" type="checkbox"/>	19	Lochs	<input type="checkbox"/>
Σ	48		<input type="checkbox"/>

Results

Reverberation Time Per Frequency



DIN 18041 Conformance

Predict Reverberation Time

A new calculation model developed by our acoustics team at the Fraunhofer IBP Institute for Building Physics predicts the reverberation time in rectangular rooms (Zhou et al. 2021).

Start by choosing your DIN 18041 usage scenario:

CREATE ROOM SIMULATION

n Time

our acoustics
Building
in rectangular

scenario:

DN

to
decide

Pred

A new c
team at
Physics p
rooms (Z

Start by

Cont

DIN

Which
fulfill
later.