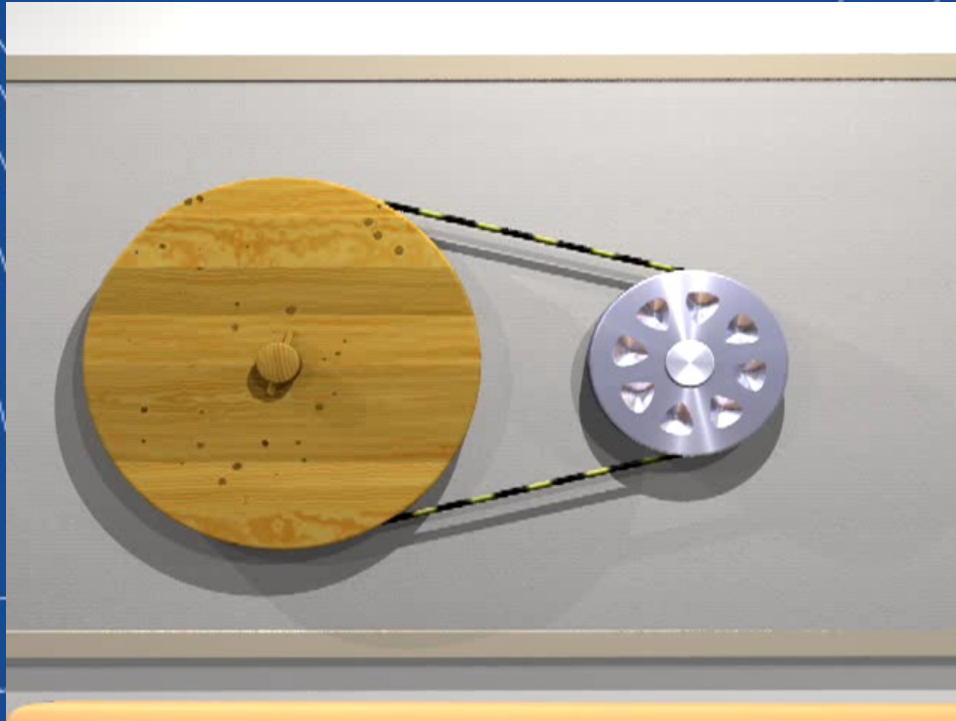


Health Flow engineering

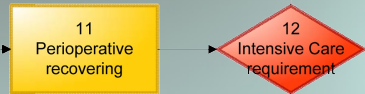


Towards a New Approach in
Integrated Design of
Healthcare Facilities

René Rodrigues de Miranda

May 31th, 2011

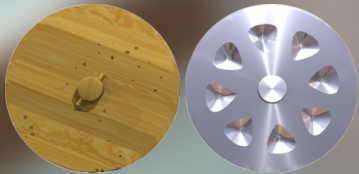
Introduction



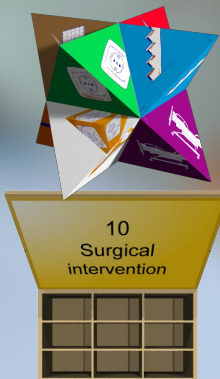
Health Flows



Community thinking & Open Source mentality



The two domains



Health Flows, database tools & communication

Communication & 3D

Discussion

Medical Equipment
Consultancy

Energy Consultancy

Communication Networks

Laboratory
Consultancy

Logistic Studies

Transportation
systems

Mechanical
Engineering

Electrical
Engineering

Building Physics

Cost Management

Security

Legionella Control

Life Cycle Costs

Validation



Born in 1964
Living in Nijmegen, the
Netherlands with my family

Since 1995 working in the
Health Care domain

Medical Science in Radboud
University, Nijmegen

Interior Architecture & Industrial
Design, Design Academy,
Eindhoven

Project experience in the
Netherlands, Nigeria, Turkey
Russia and Kazahkstan

Now working for **Deerns**
consulting engineers

Home Search RuneScape.com Go JACEX

Walk here Talliron66 (level 31) / 3 more options

XP: 15857

250

14

5

00:04

...and slightly dizzy too.
You eat the lobster.
It restores some life points.
You've just advanced a Constitution level! You have reached level 25.
Autocast spell selected.
Oh dear, you are dead!
Your gravestone has appeared and will last 3 minutes before crumbling to dust. You can find the location of your gravestone by looking at the world map.
Jonahran

All Game All Public On Private Friends Clan On Trade On Assist On Report Abuse



Empowering the community

Focus on medical process (the Health Flows)

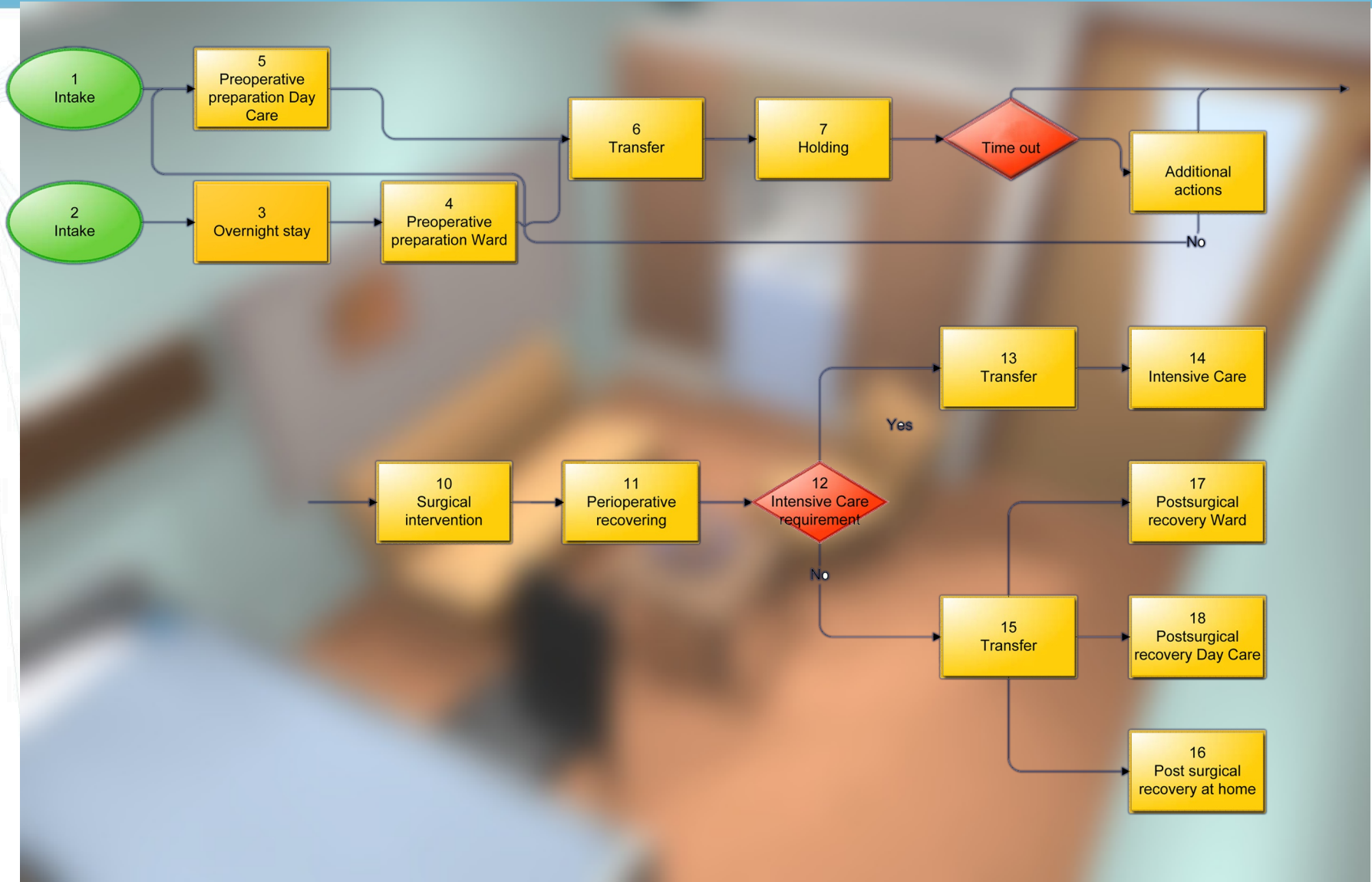
Establishing common language

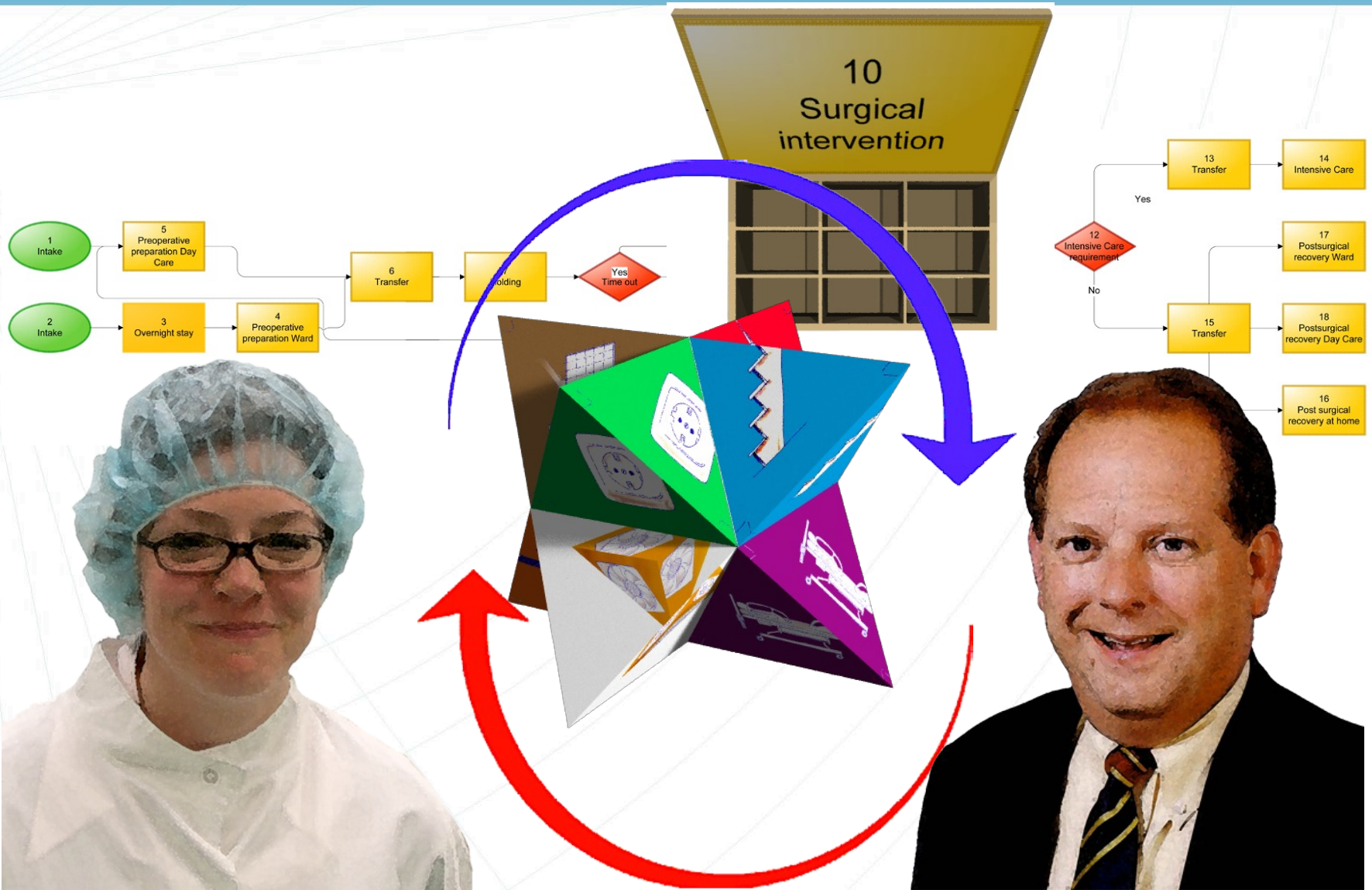
Database flow tool

Sharing 3D data

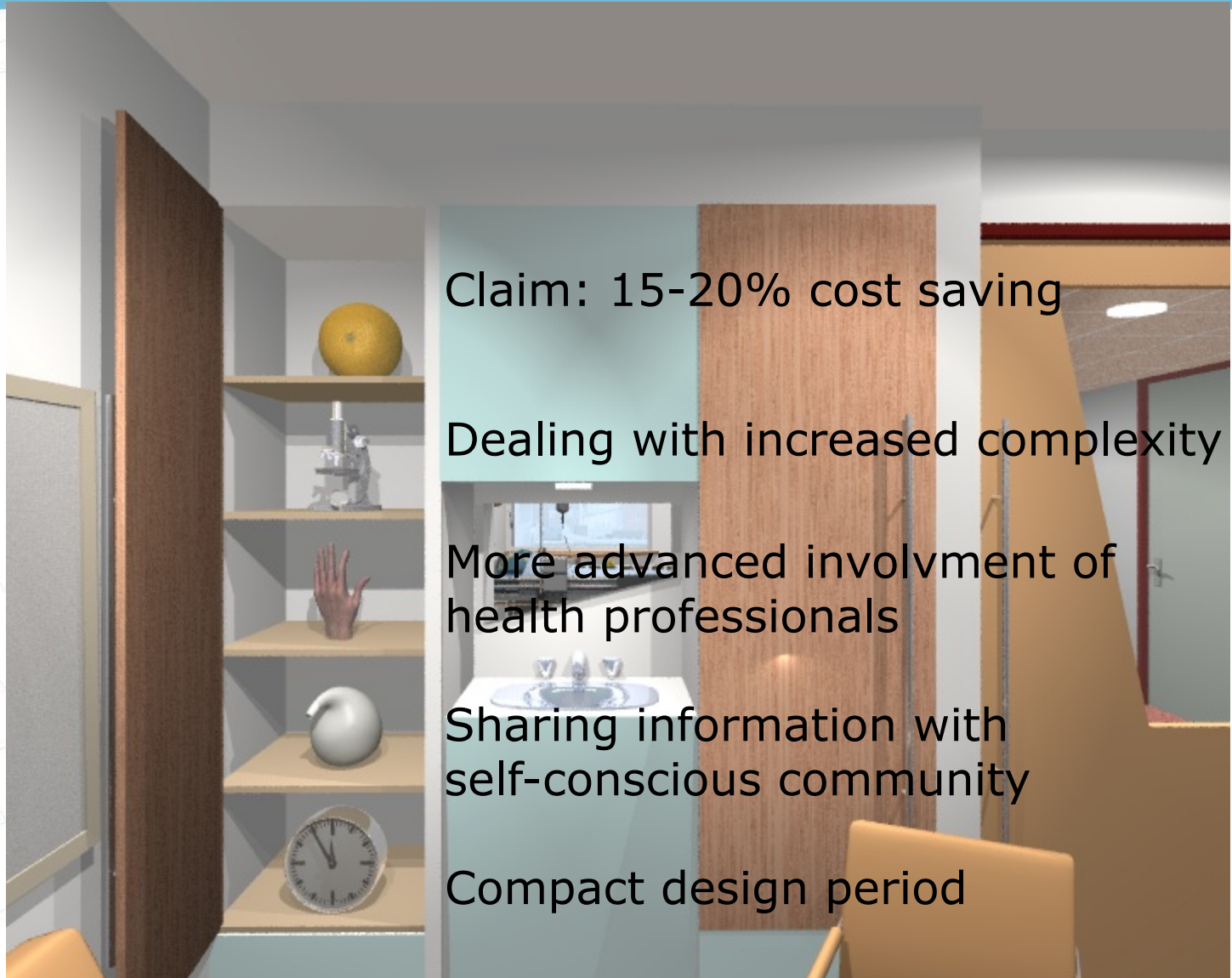
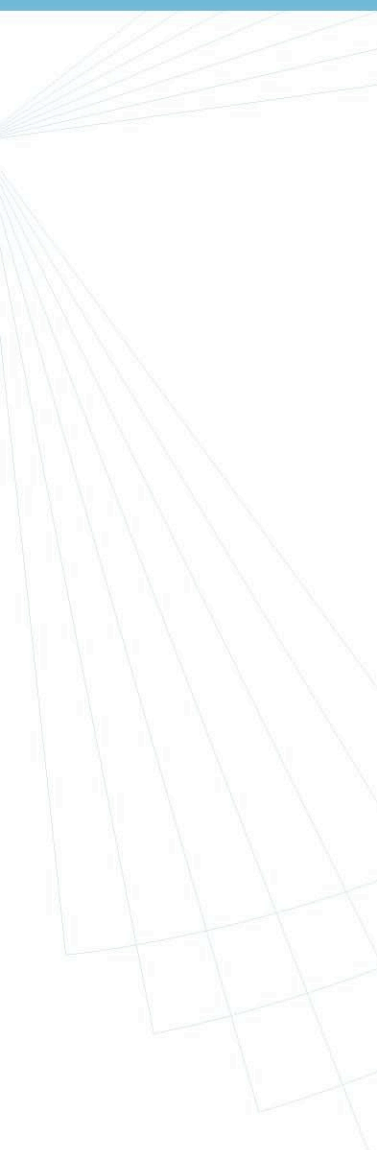
Using 3D environment for procedure testing

Concurrent engineering









Claim: 15-20% cost saving

Dealing with increased complexity

More advanced involvement of health professionals

Sharing information with self-conscious community

Compact design period

Deerns How can we involve the community?



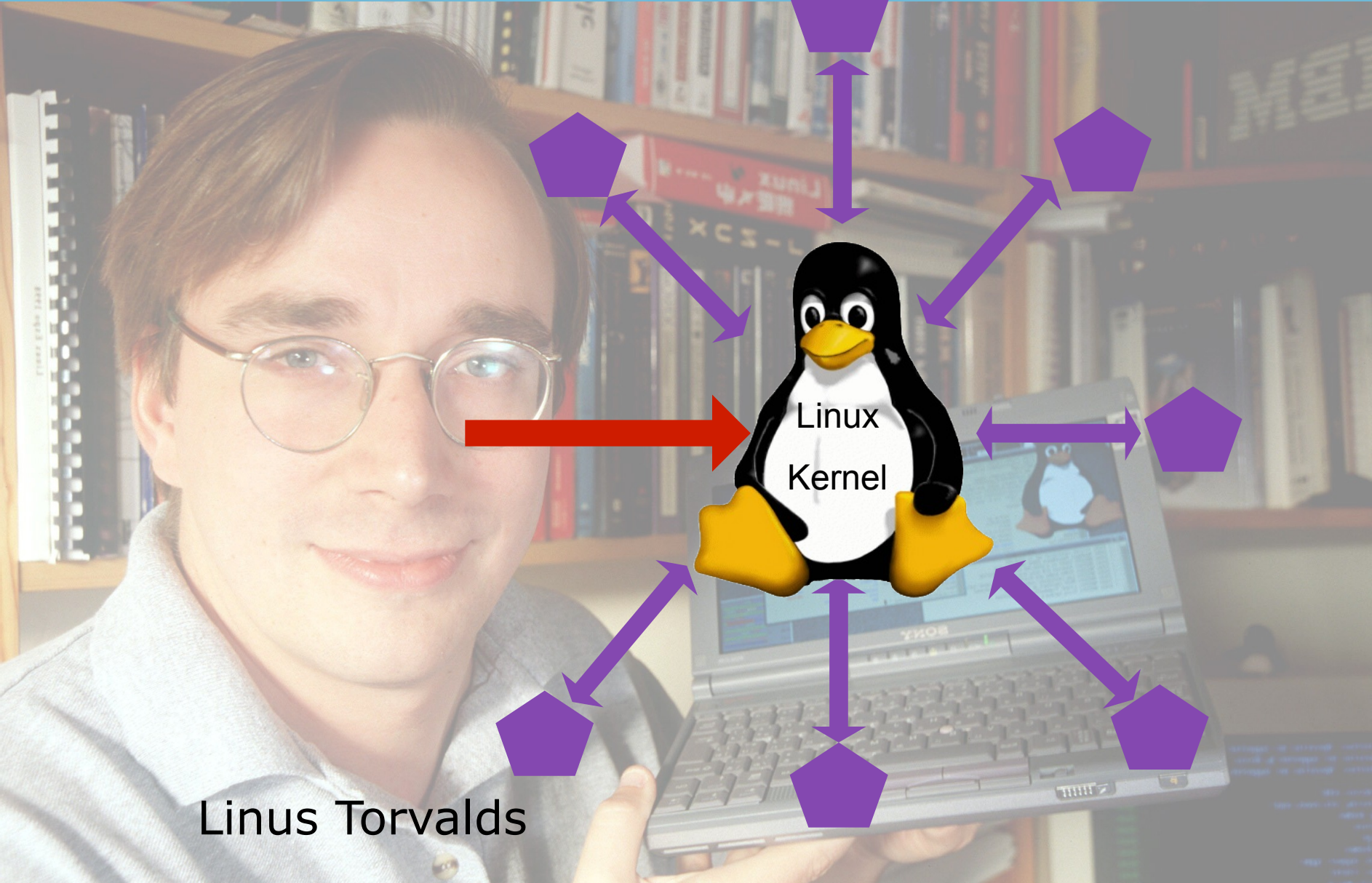


WIKIPEDIA
The Free Encyclopedia



Google
SketchUp





Linus Torvalds

Linux
Kernel



Eric S.
Raymond





Eric S.
Raymond

6. Treating your health professionals as co-developers is your least-hassle route to rapid design improvement .

7. Release early. Release often. And listen to your customers.

10. If you treat the health professionals as if they are your most valuable resource, they will respond by becoming your most valuable resource.

11. The next best thing to having good ideas is recognizing good ideas from the health professionals .

Sometimes the latter is better.

12. Often, the most striking and innovative solutions come from realizing that your concept of the problem was wrong.

19. Provided the Project coordinator has a communications medium at least as good as the Internet, and knows how to lead without coercion, many heads are inevitably better than one.



Health & Design professionals

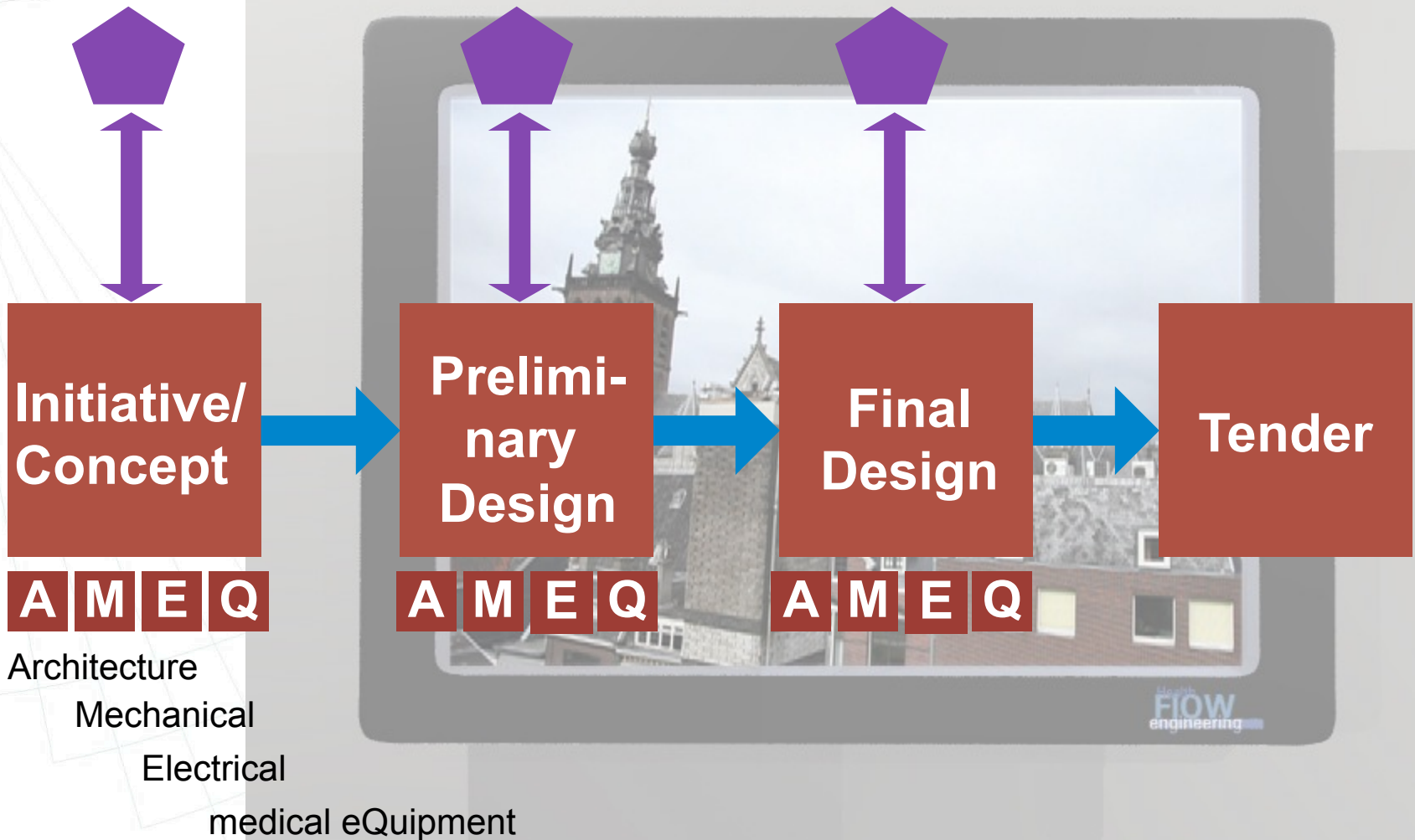
Proces & Design

Intuition & Coincidence

Communication & 3D tools

Design & TCO



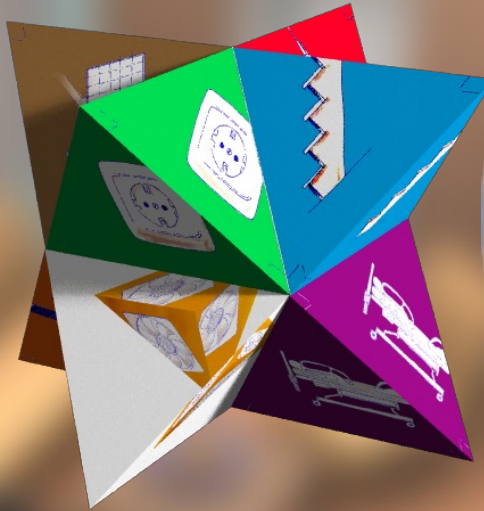


Communication

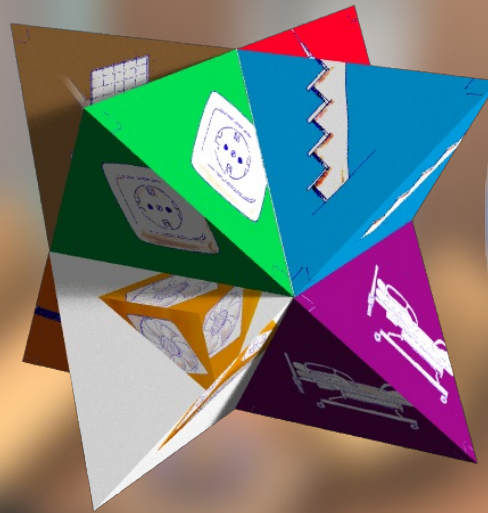
Interface

Health
Professionals

Design
Professionals

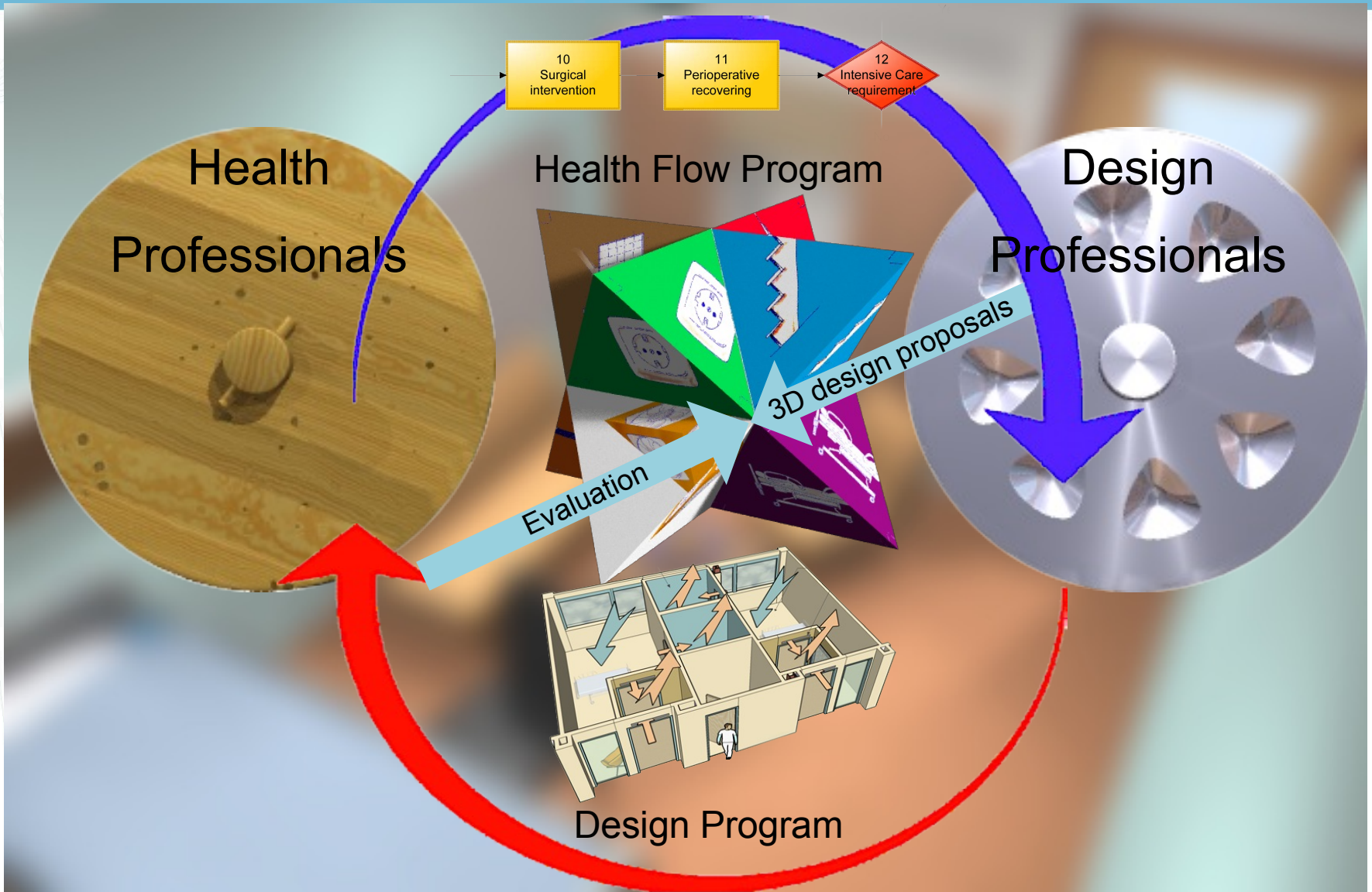


Health
Professionals

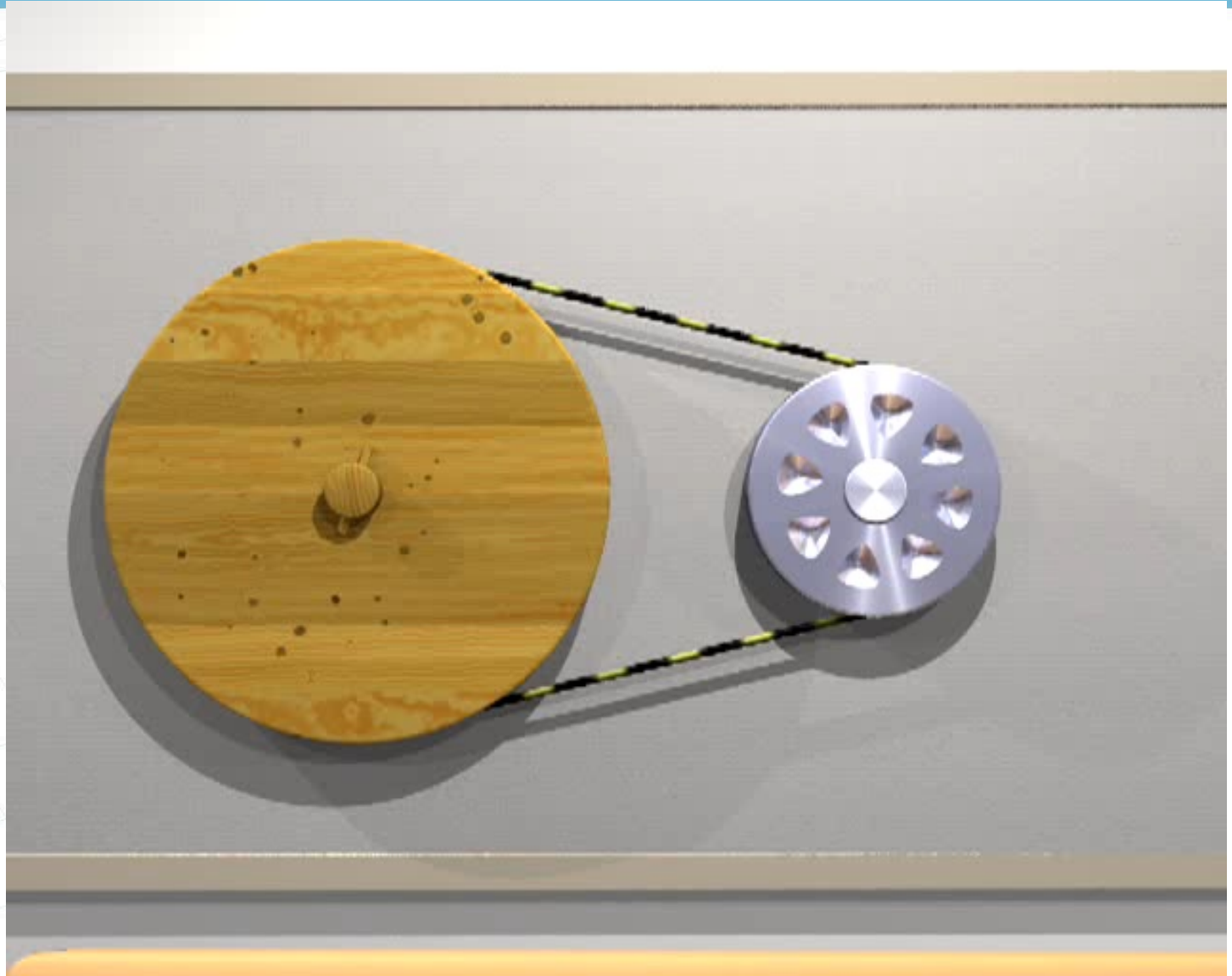


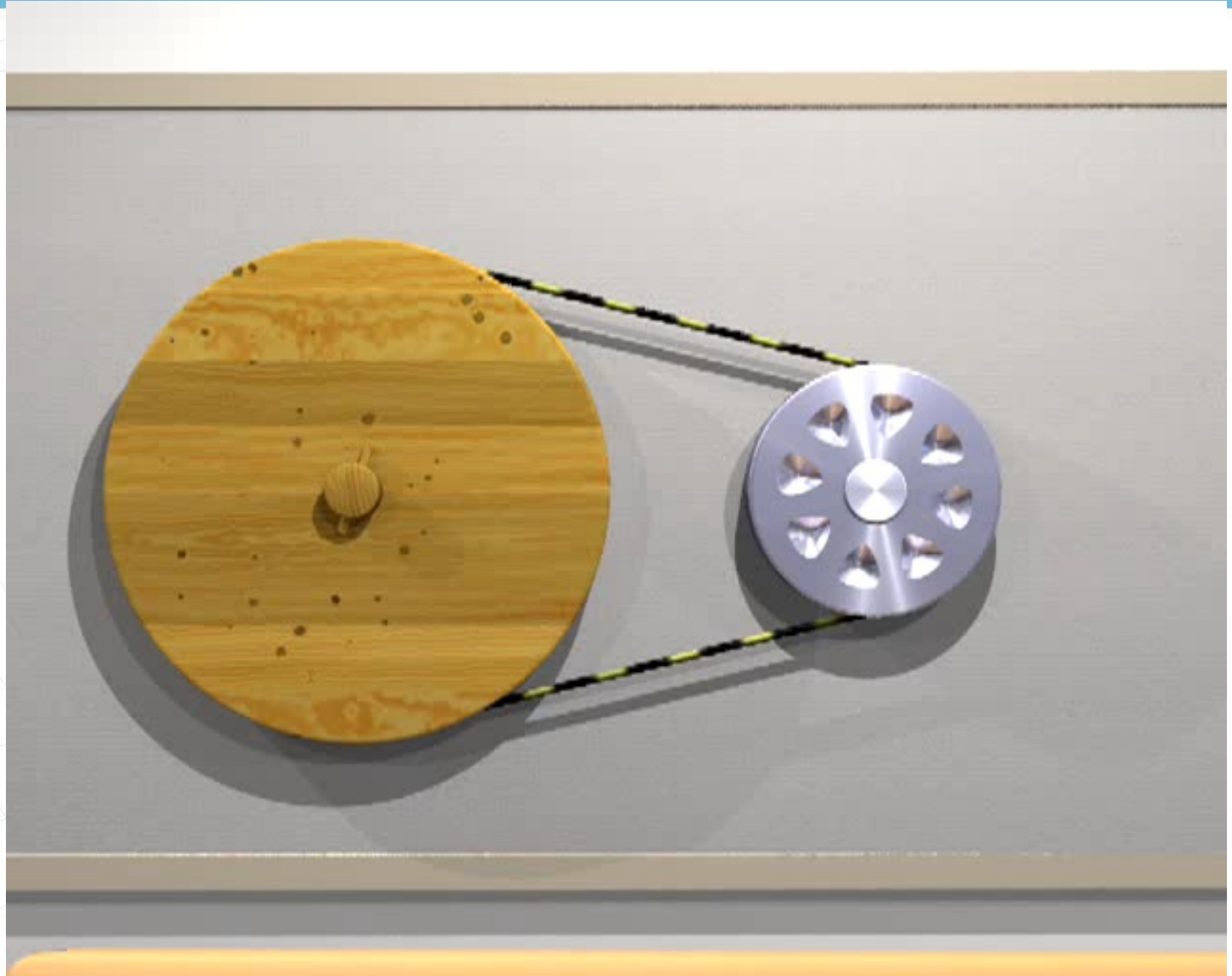
Design
Professionals

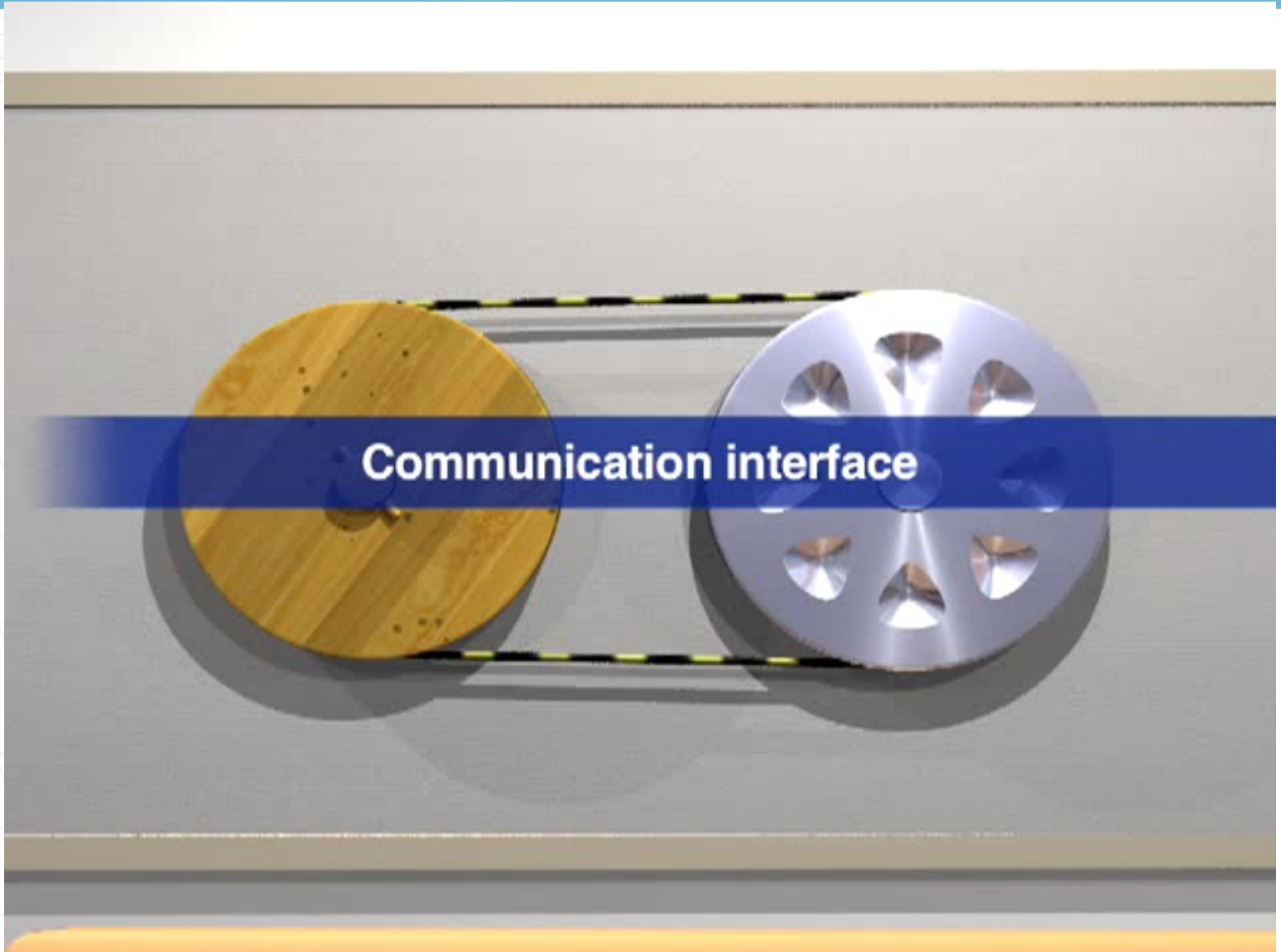


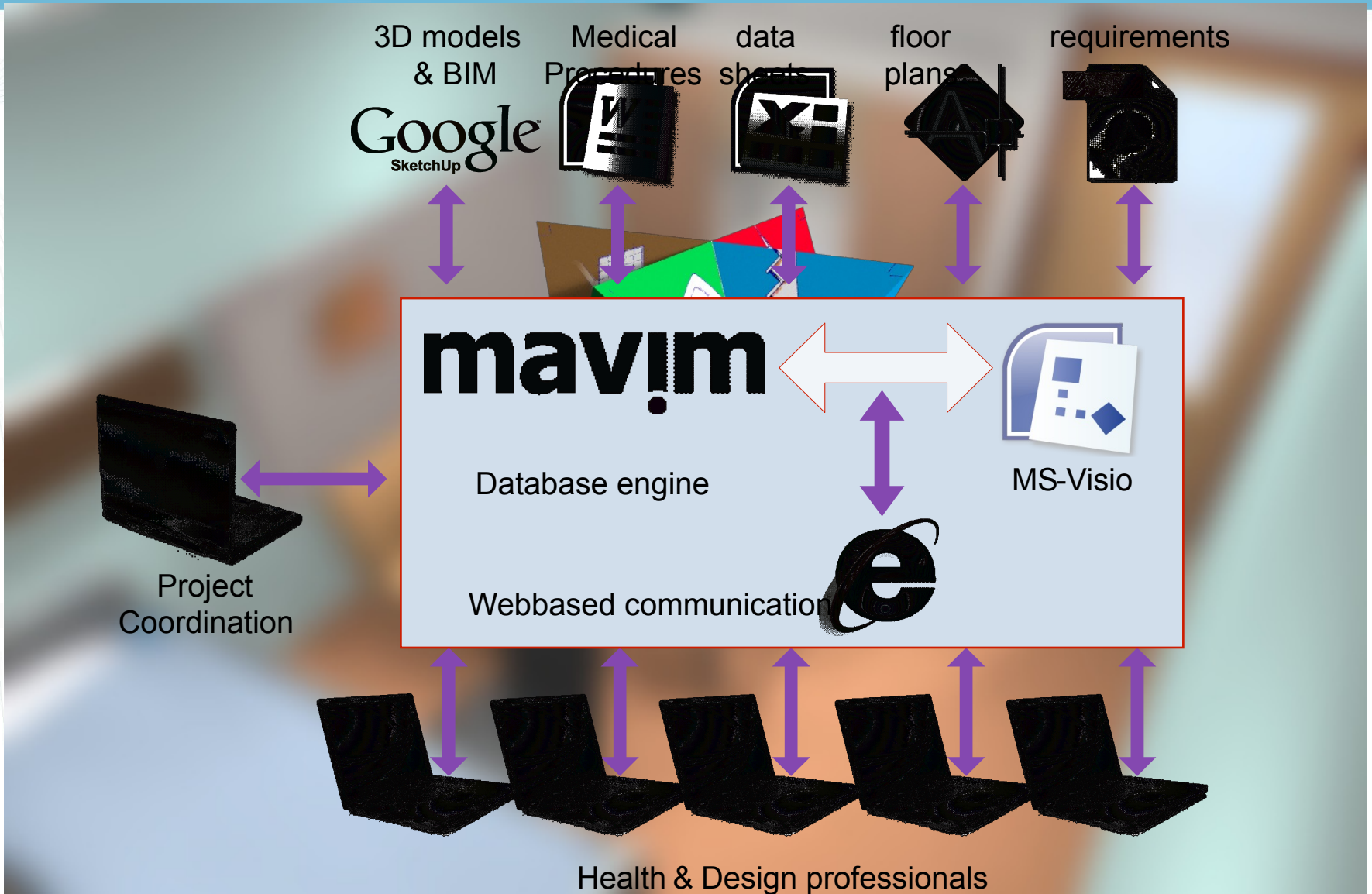




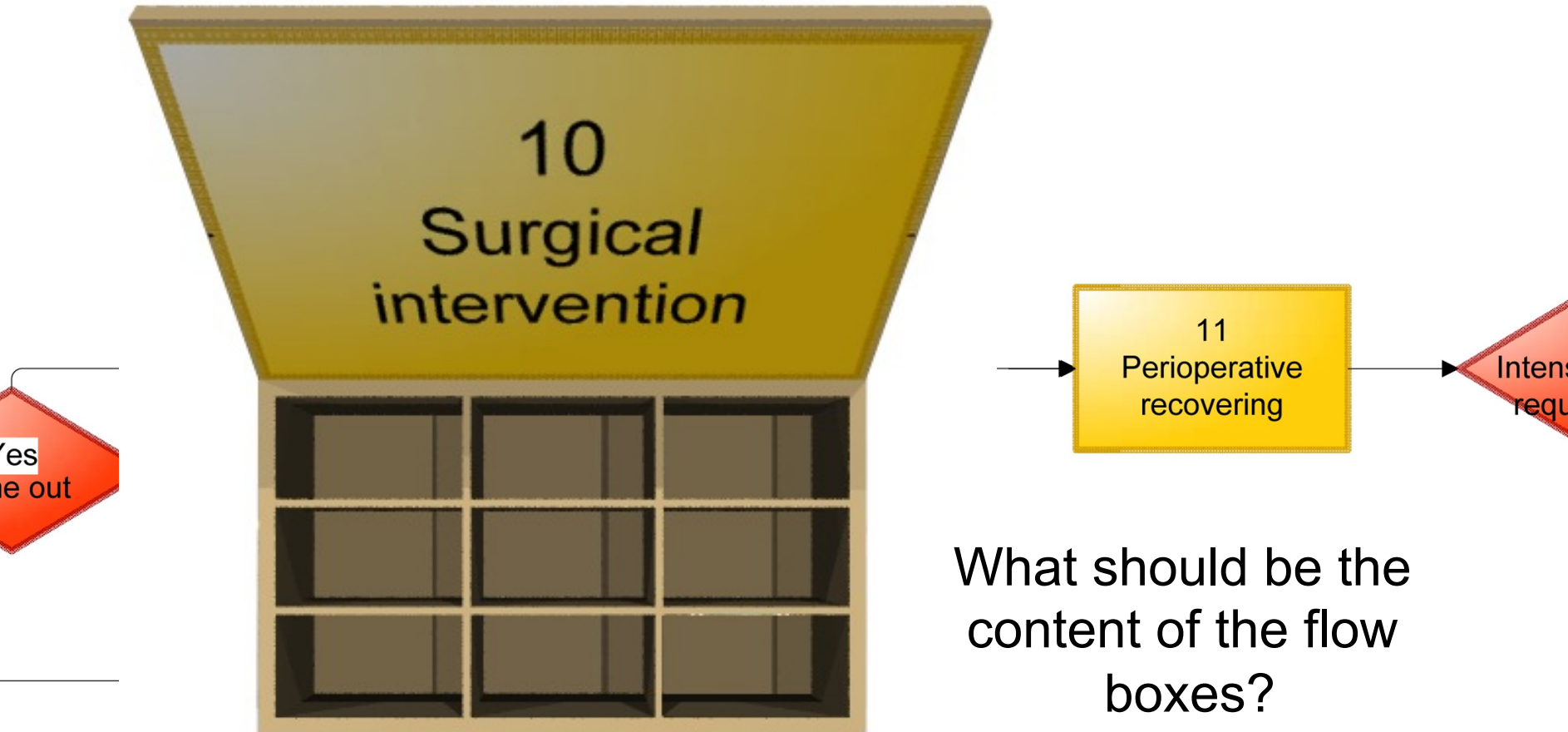












What should be the content of the flow boxes?

Mavim Rules [1] - Deerns - (Unregistered Version 12 days left i...)

Mavim Rules - Health Flow Elective Surgical intervention.vsd

File Edit View Favourites Tools Window Help

Structure Describe Relate Analyse Overview

Bestand Bewerken Beeld Invoegen Opmaak Extra Gegevens Shape Venster Help

Typ een vraag

Arial 12pt B I U

Revisoren

Shapes

Topics - Relationships - Transfer

Relationship Category	Characteristic	Code	Name	From	Path
Whereteto		9	Postsurgical recovery Ward	Heath Flow Elective Surgical intervention	Patient Flow\Deerns
Whereteto		10	Postsurgical recovery Day Care	Heath Flow Elective Surgical intervention	Patient Flow\Deerns
Wherefrom	Ja	6	Normal Recovery	Heath Flow Elective Surgical intervention	Patient Flow\Deerns
Who		1	Staff members	Wie	Relatiecategorieën\Deerns

Relationships - Transfer Description - Transfer Fields - Transfer

Relationship Category	Characteristic	Code	Name	From	Path
With What		16	Processchema		

Relationships - Rheumatology patient flow Description - Rheumatology patient flow Fields - Rheumatology patient flow

D:\120-07-02213 Curidorum\Mavim demo Health Flow MMD SUPER.nl


Mavim Rules - garden city hospital - garden city hospital - Windows Internet Explorer

file:///D:/Documents%20and%20Settings/d0280/My%20Documents/Transfer/Theme/Html/Default.html?page=e1

File Edit View Favorites Tools Help

Google Search Share Sidewiki Check Translate AutoFill Sign In

Mavim Rules - garden city hospital - garden city hospital



Garden City Hospital

Home Navigatie Schema Matrix Zoeken Commentaar RSS Afdrukken WWIG Ik-view

garden city hospital

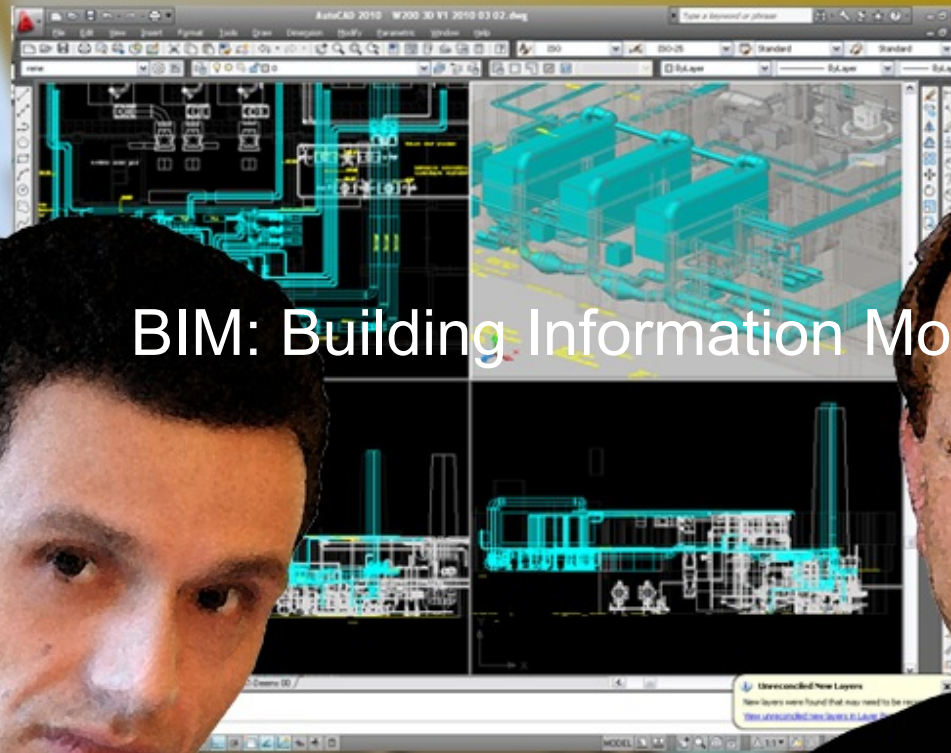
garden city hospital

Category Icon	Category Name	Topic Icon	Topic Name	Characteristic Name	Topic of	Characteristic Icon	Characteristic Code	Topic Order Number	Topic Code	Topic Path	
	Who		Staff members		Wie			1			Ik-view
▢ Whereto											
	Whereto		Postsurgical recovery Ward		Heath Flow Elective Surgical intervention			9			Ik-view
	Whereto		Postsurgical recovery Day Care		Heath Flow Elective Surgical intervention			10			Ik-view
▢ Wherefrom											
Category Icon	Category Name	Topic Icon	Topic Name	Characteristic Name	Topic of	Characteristic Icon	Characteristic Code	Topic Order Number	Topic Code	Topic Path	

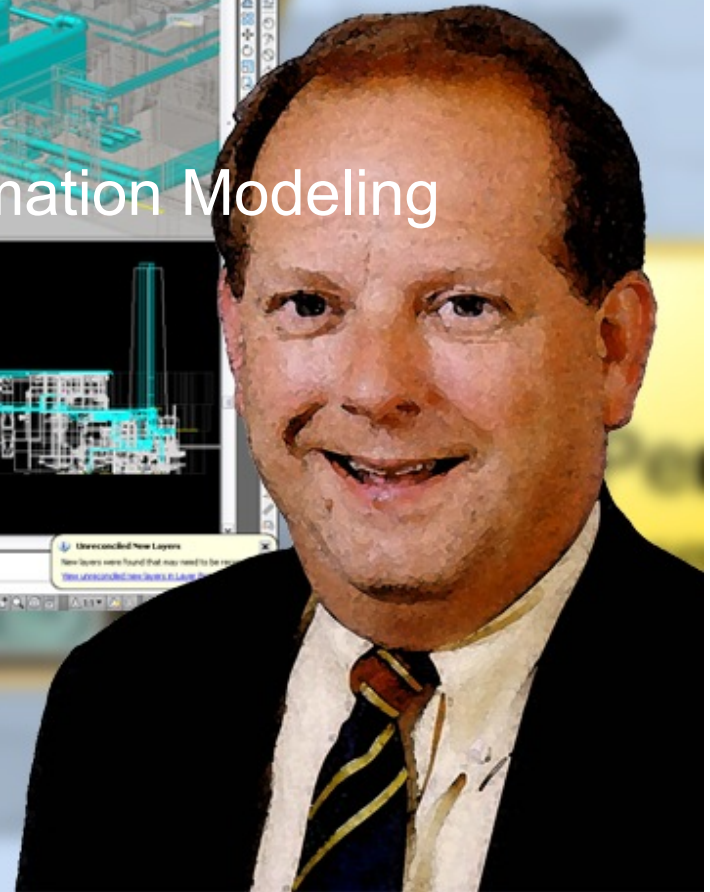
garden city hospital

My Computer 100%





BIM: Building Information Modeling





3D visuals as marketing tool

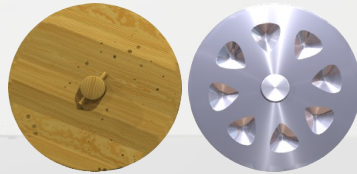


Understanding the health flow

Understanding the design proposal



Alternating the design proposals



Would you appreciate Health professionals as design co-developers?



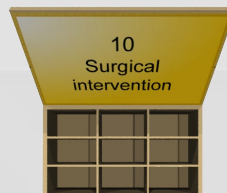
Who should claim the coordination of this design environment?



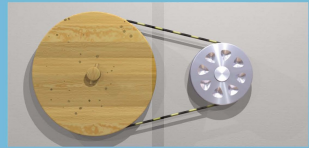
How do you relate to Health Flows and the Program of Requirements in your design practice?



How do you incorporate coincidence into your design works?

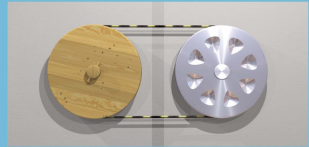


What would be your preferred content of the flow boxes?

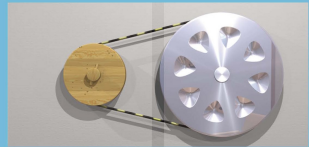


Phasing in Health Flow Engineering

Initiative
The health professionals are in the lead by producing the health flow programs including the health flow requirements.



Designing
A constant interchange of ideas, 3D-proposals and fine tuning of both the health program and the design program because of structured communication between all stakeholders in the project.



Detailing and Tendering
The design professionals are in the lead by producing all relevant design details and tender documentation.

René Rodrigues de Miranda
Consultant

Deerns Consulting Engineers
Fleminglaan 10
2289 CP Rijswijk
P.O. box 1211
2280 CE Rijswijk
The Netherlands

T +31 (0)88 374 00 00
F +31 (0)88 374 00 10

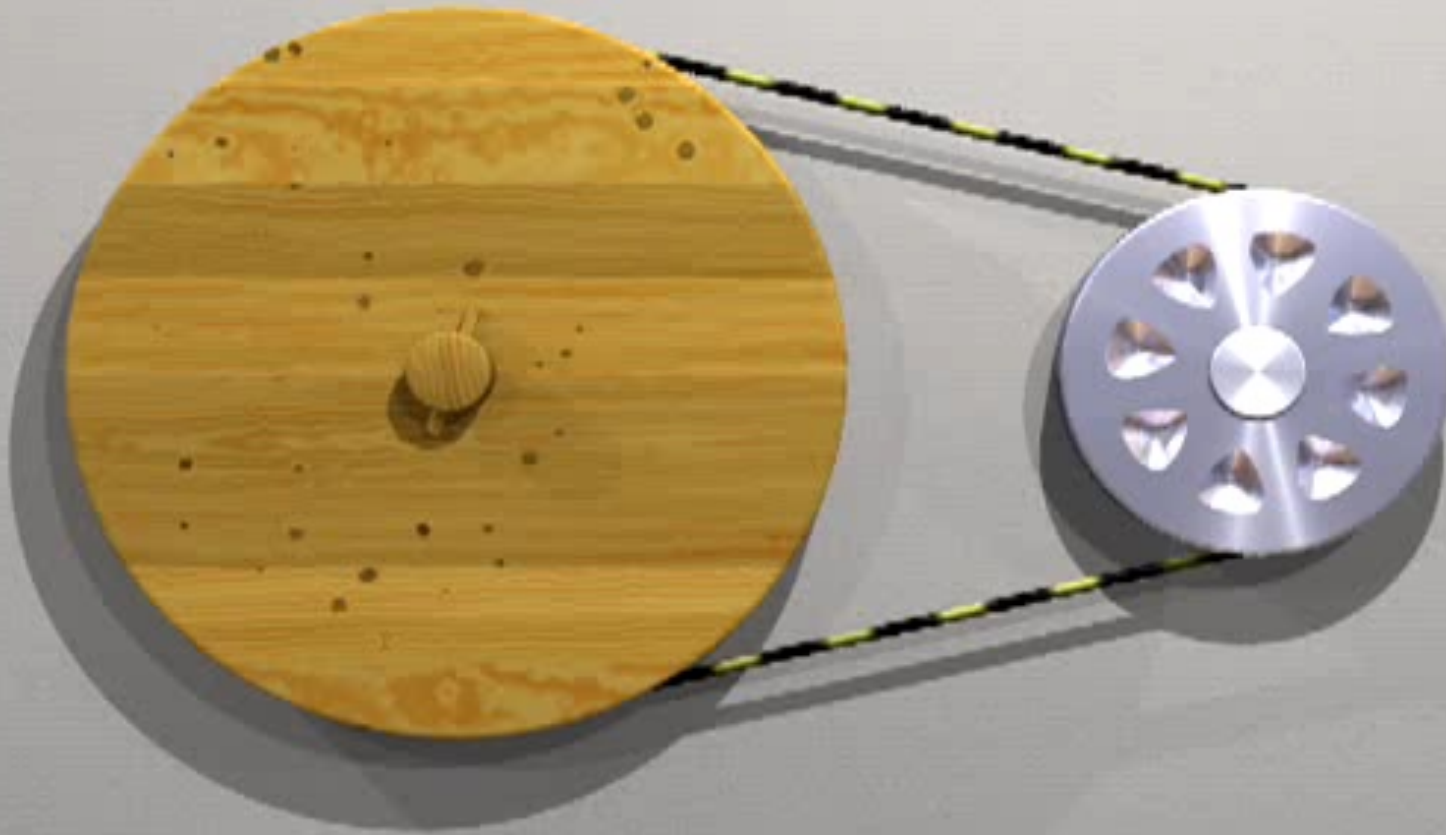
www.deerns.nl / www.deerns.com

Deerns

Deerns

Health FLOW engineering









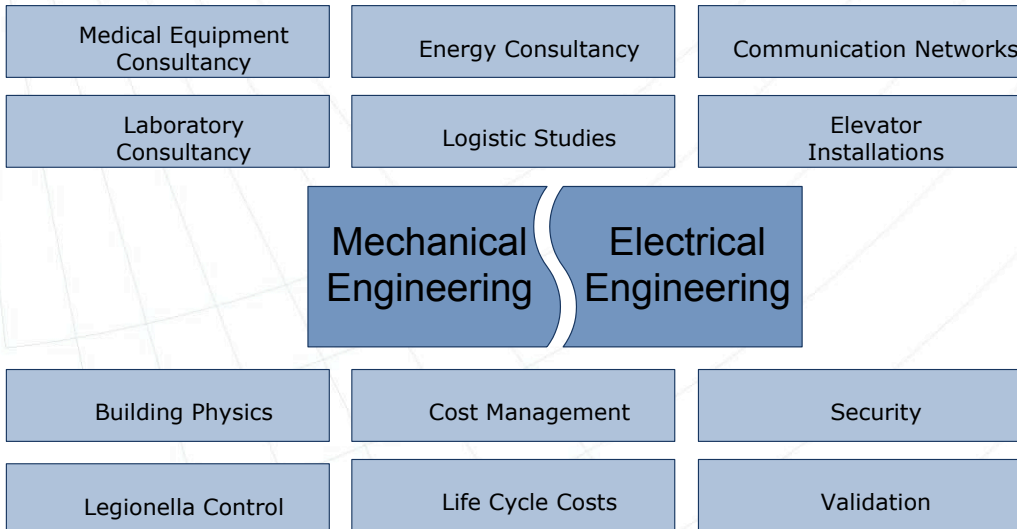


Work in progress

**In need of
fine tuning**



- Established 1928 in The Netherlands
 - Limited Liability Company
 - 400 staff
 - Market Leader in The Netherlands
- One of the largest MEP firms in Europe



- Independent from Contractors / Suppliers
- Staff Code of Conduct
- Quality Assurance Certified ISO 9001