



Implementing preventive measures in the development process of display cases

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Hochschule für Technik
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Cooperations and Partners

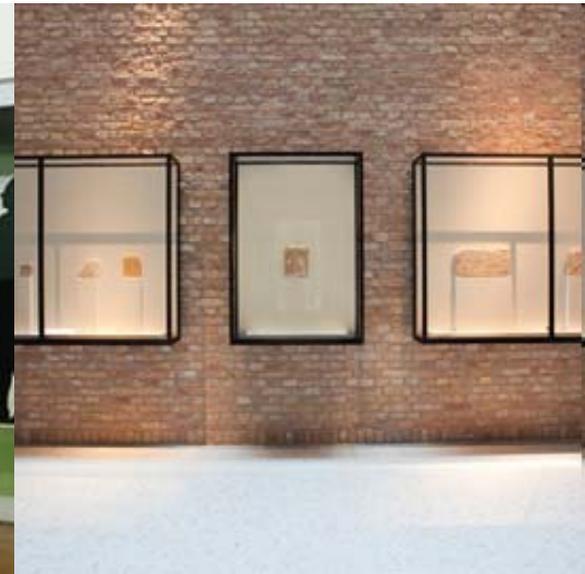
- Hochschule für Technik und Wirtschaft Berlin - *University of Applied Sciences* (HTW Berlin), Class of conservation and restoration
- Brandenburgisches Landesamt für Denkmalpflege und Archäologisches Landesmuseum - *Brandenburg State Heritage Department and State Museum of Archaeology* (BLDAM)
- Julia Toedt Design
- Museumstechnik GmbH



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Situation

There are several ways to plan, design and set up exhibitions and realise display cases.



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Situation

Next to the issues of dramaturgy and ‚look‘ intended by architects and designers, the outcome of display cases often depends on the objects dimensions and their materials.



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Situation

Unfortunately, concepts for display cases often miss out on conservation knowledge. In many cases this leads to construction failure or the use of inappropriate materials → costly adjustments → time-consuming remodeling → stressful exhibition installation



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Situation

After all, display cases should support the object's state of conservation. Therefore all attention needs to be drawn upon preventive conservation recommendations and research results e.g. impact of materials' gaseous compounds



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Project Objectives

Almost every museum has experienced very stressful exhibition installations because of communication gaps or inappropriate construction ideas.

Lots of institutions have also discovered changes on object materials due to chemical reactions (objects vs. construction material) right after new display cases had been installed.

In May 2009, a small working group at the *Brandenburg State Museum of Archaeology* was founded, which is dedicated to find out more about these circumstances ...

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Project Objectives

The project focusses on the development of display cases for the temporary exhibition space of the *Brandenburg State Museum of Archaeology*.

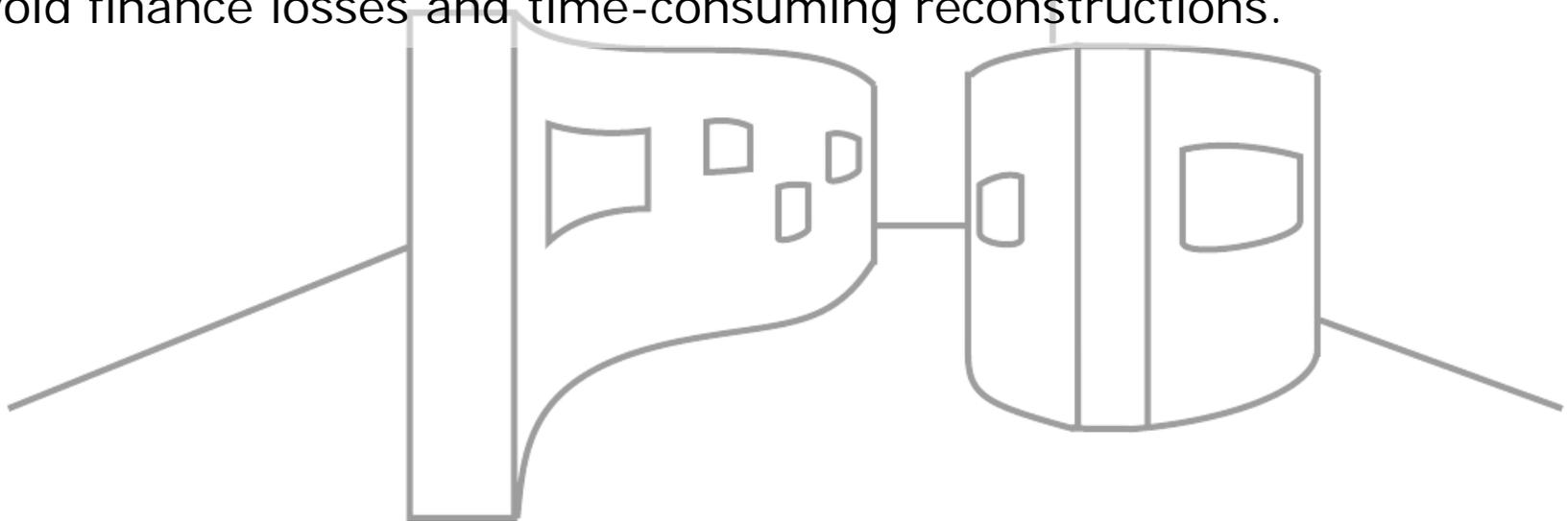
- the state of the art conservation knowledge (pollutants & contaminants)
- flexible and modular
- mid to low-cost level

In order to reach the project's objectives, the working group consists of **historians / archealogists** (concept, marketing, big picture), **conservators** (prev cons, handling and mounting, research), **designers** (look, design, properties), and **display constructors** (technology)

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Project Objectives

By bringing these disciplines together at an early state and on a regular working basis, the working group's intention is to consider conservation knowledge as well as all other important planning aspects, and therefore avoid finance losses and time-consuming reconstructions.



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Display System - Characteristics

Conservation criteria:

- meets state of the art preventive conservation requirements
 - no/low concentrations of air-borne pollutants / contaminants from construction materials / dust
 - UV and light protection → LED solutions only, external
 - adjustable climate conditions → from passive to external climate control
- objects' safety → theft, vandalism etc.
- easy access while mounting objects

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Display System - Characteristics

Designer and user criteria:

- adjustable for different specifications → topics, volumes, categories
- flexible → sets up different shapes
- modular and expandable
- easy to handle and to set up → 1-2 pers.
- construction is robust
- construction meets current financial demands
- sustainable materials → re-usable blinds, easy to print on etc.

Display System - Principles

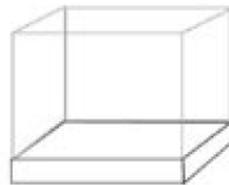
In order to accomplish the conservation as well as design criterias, the construction principle needs to get away from the traditional case concept.

There will be three components instead:

1. Framework



2. Display box

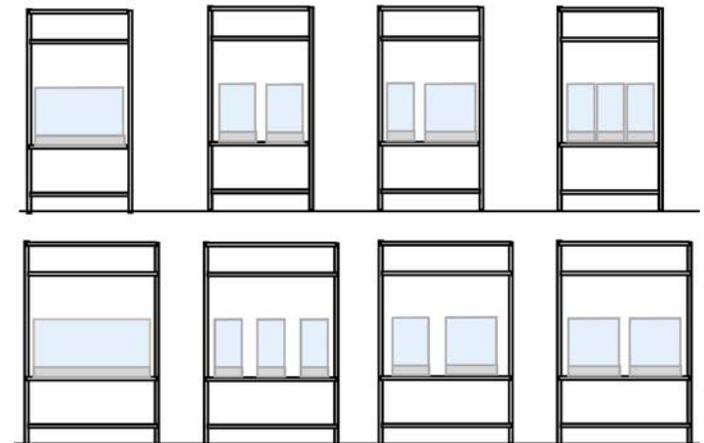
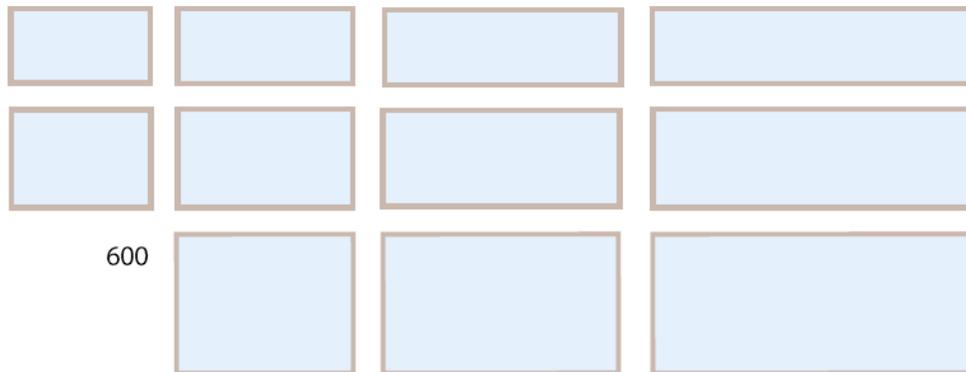


3. Blinds/ lining

Display System - Principles

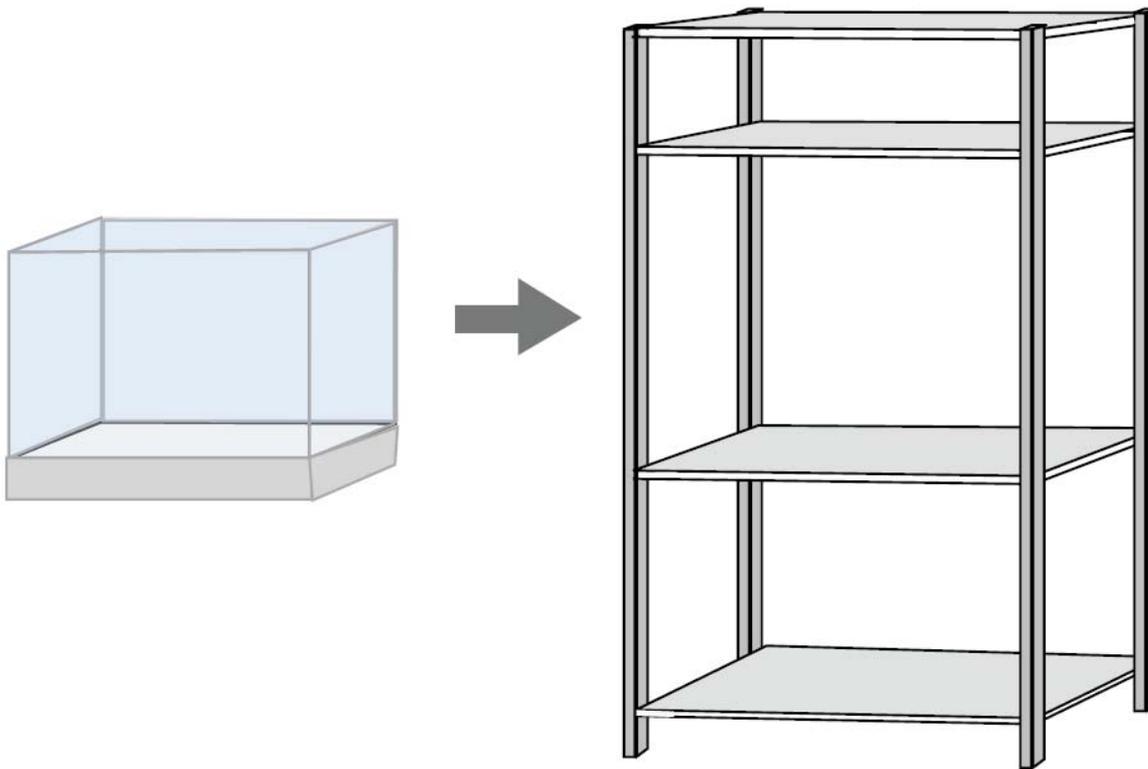
As a result, these three components (variable in size and volume) don't need to be completely replaced any time a new exhibition is composed.

The core pieces – framework and display (meeting the highest conservation standards) - can be used for any design concept. Only the lining / blinds need to be changed.



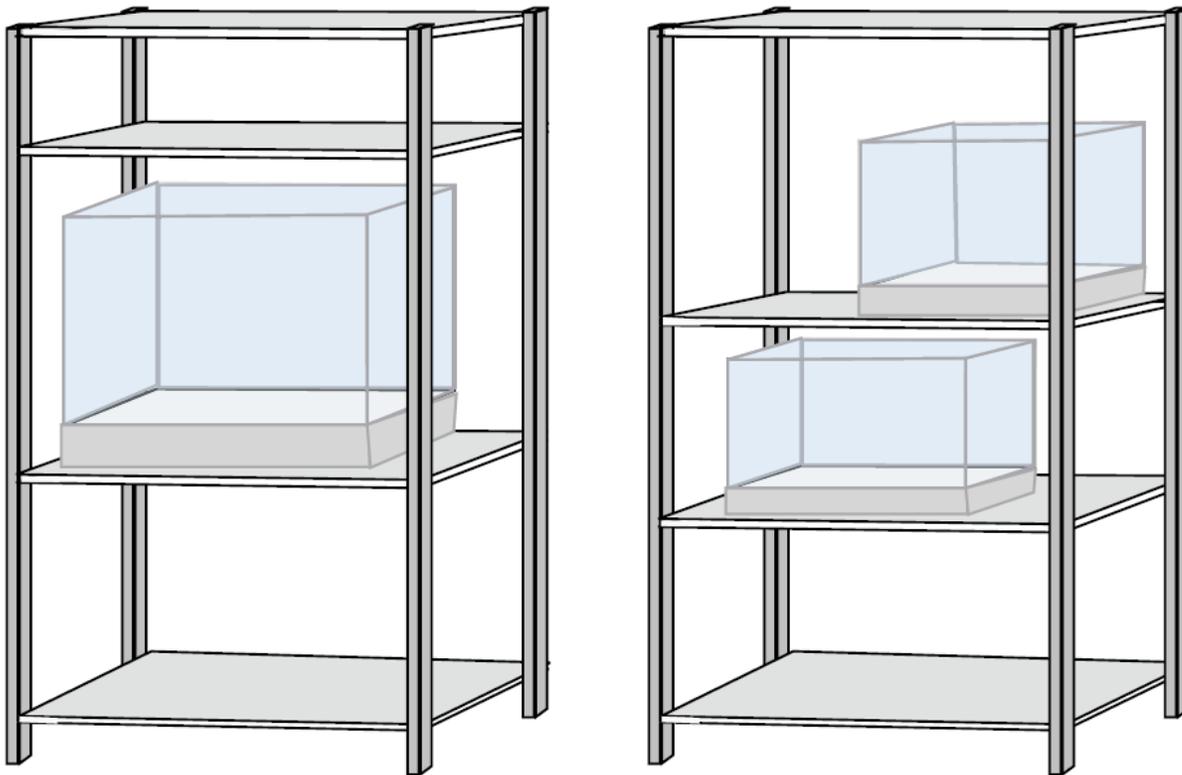
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Display System - Principles



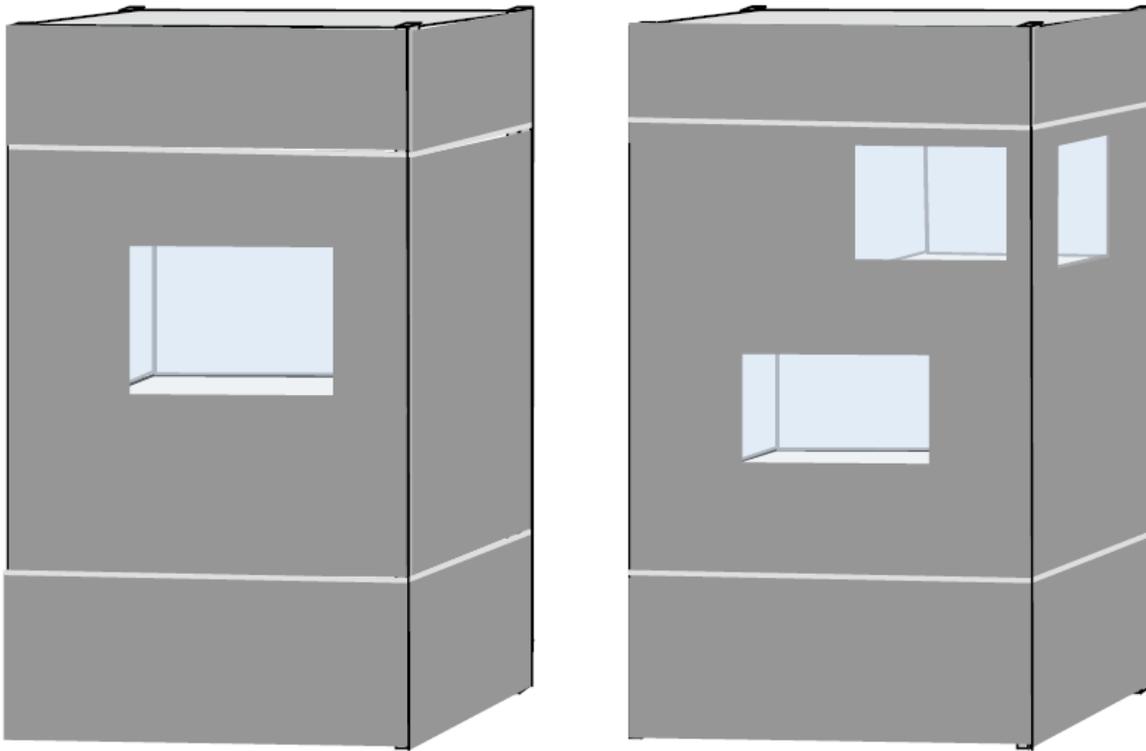
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Display System - Principles



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Display System - Principles



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Implementing Preventive Measures

Working methods

Starting the project phase, each profession developed specific catalogues on the outlined criteria. Especially conservation issues were based on the prev cons background

- discussion among the group about the different parameters
- consensus on each step / the construction / the materials

Implementing Preventive Measures

Especially the materials for the outer shell of the system (lining / blinds), which need to be flexible, be on a low-cost level, and will be discarded and replaced more often, led to discussions.

→ very different materials on the market / not tested (shall we break it down? Might that limit the flexibility of the system?)

→ choice should be left to the designer (shall we impose specific / 'emission-free' materials only?)

→ financial aspect (shall we propose museum-tested materials only?)

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Achievements so far

Currently, the criteria catalogues were finished. Especially the conservation and design issues needed some ballancing.

For the remaining year 2010 the group plans to get into the 3D phase and construct some system dummies.



Achievements so far

On those dummies, the group hopes to develop solutions about

- specific constructions → display box hanging in the framework
- leakage levels / air exchange rate
- light → LED only? external light only?
- materials for mounting tablets
- safety → how are display boxes locked?

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Future Needs for Research and Development

There are already several questions and need for further testing and research:

What will we do about Corian (Acrylic / mineral mix)?

What about Plexi - is it really that stable and harmless?

Should we take the media technology into account? → which and how much VOCs evolve from all the black electronic boxes in the exhibition room?)

Conclusion

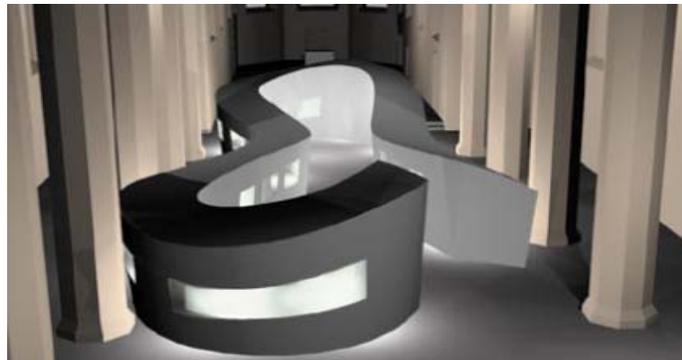
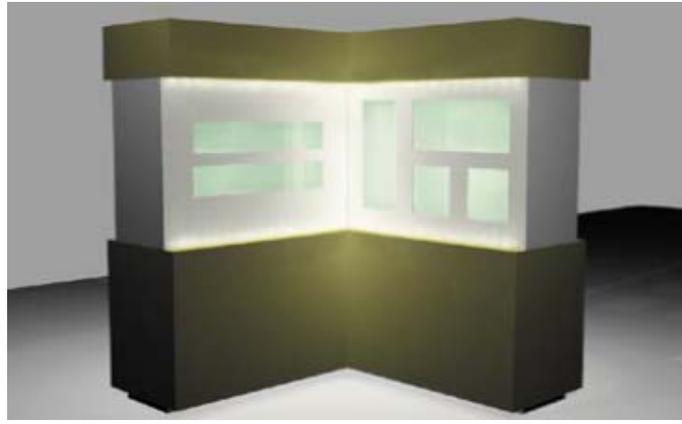
When contributing the paper, the authors were debating if it would be possible, to implement the results of conservation research - especially those on airborne pollutants / contaminants - into museums practice and into the development of the outlined display system?!

So far, consensus was achieved on the materials the framework and the display boxes are planned to be constructed of:

- metal / AU frames
- glas / acrylic glas
- emission-free sealing
- emission-free coating / insulation of technical components

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Impressions





Thank you for your attention!

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