

Introduction to Medical Imaging Case Study

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Abstract

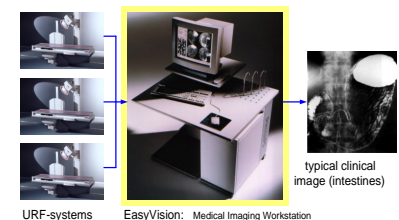
Easyvision is a medical imaging workstation used to enhance the printing functionality of URF systems. URF systems are used for gastrointestinal examinations. The reduced film usage is a direct economic justification for the use of Easyvision.

The technological challenge of this product is to build it entirely with standard off the shelf hardware components, while the performance and image quality are critical for a successful application. Many technical innovations were introduced to create this product family.

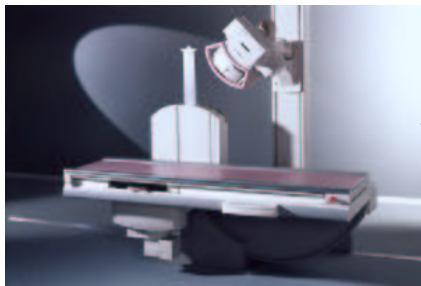
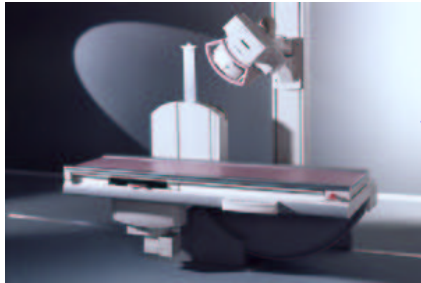
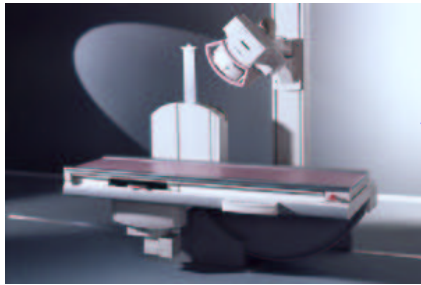
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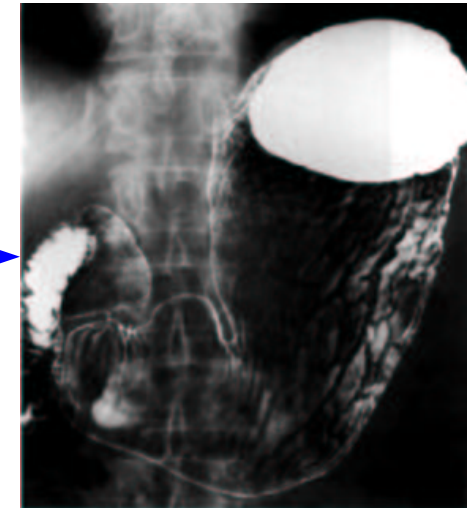
Easyvision serving three URF examination rooms



URF-systems

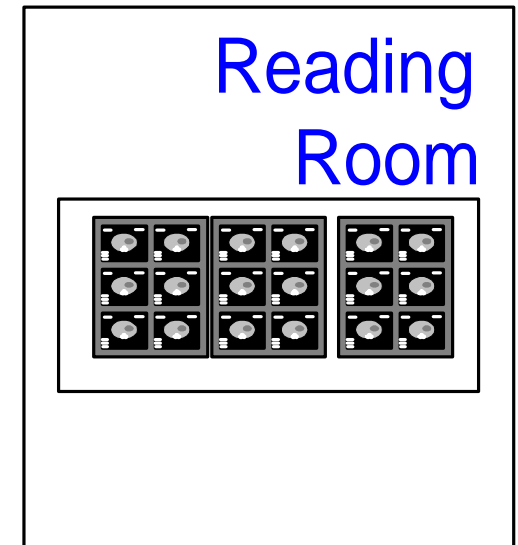
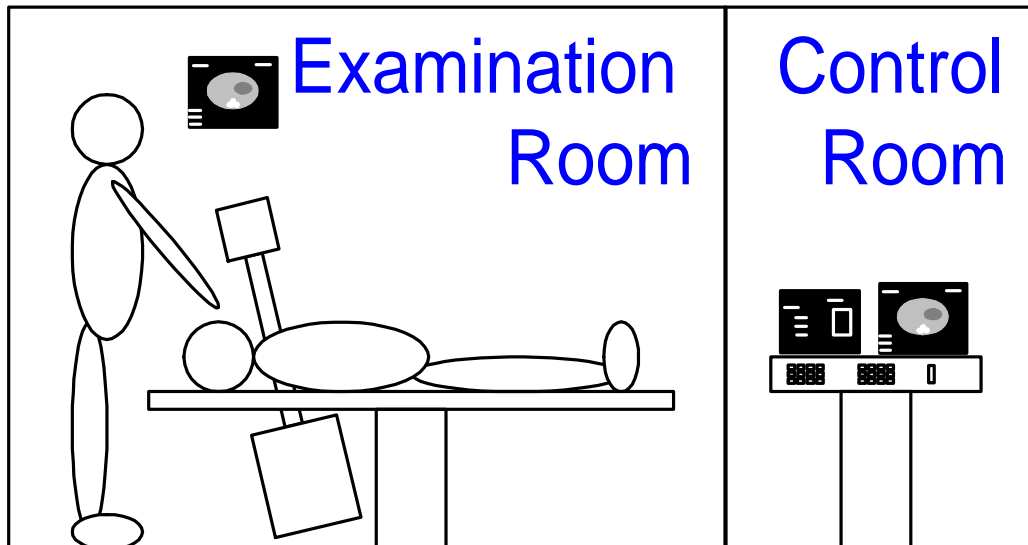
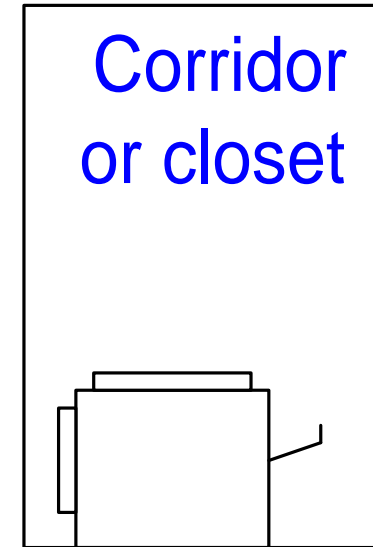
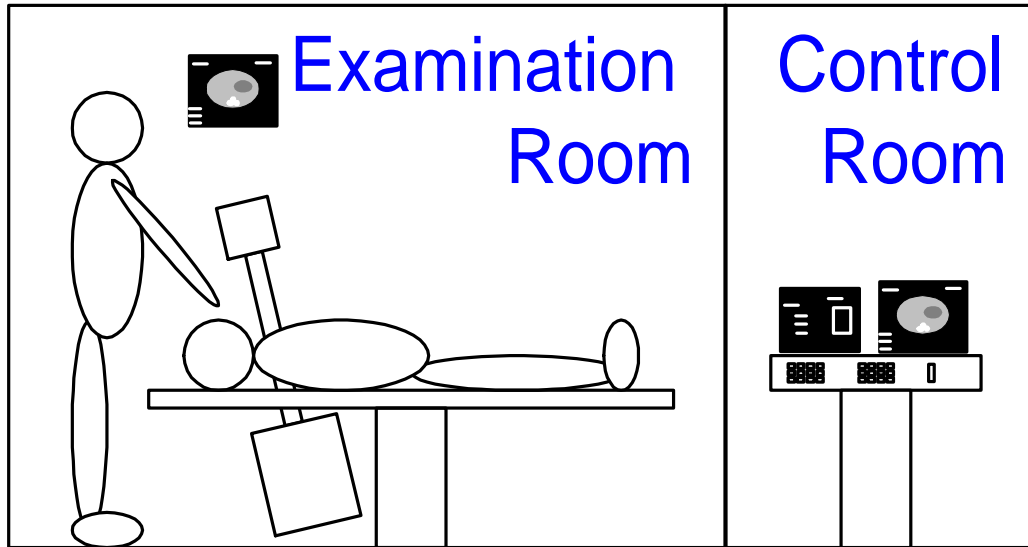


EasyVision: Medical Imaging Workstation

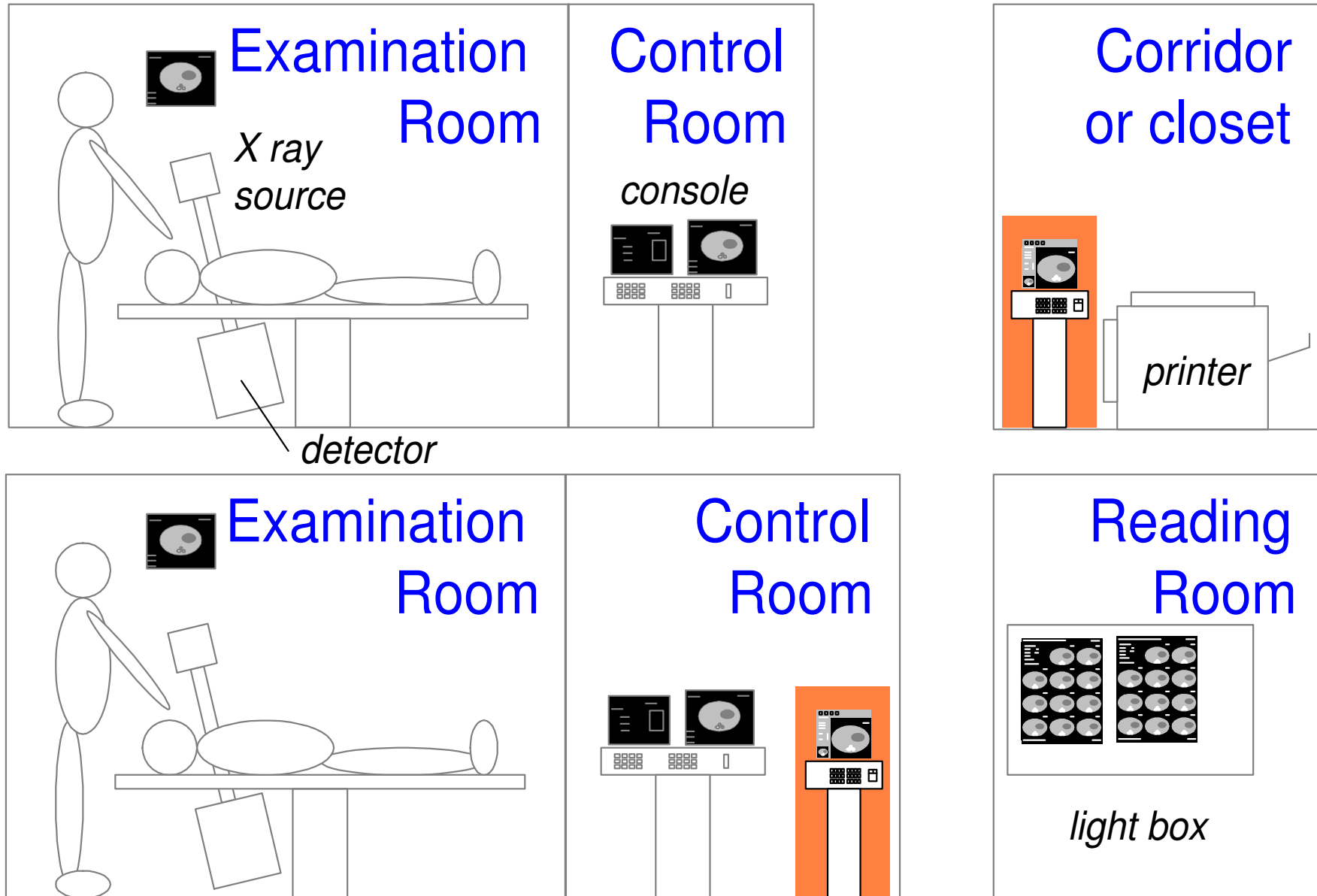


typical clinical image (intestines)

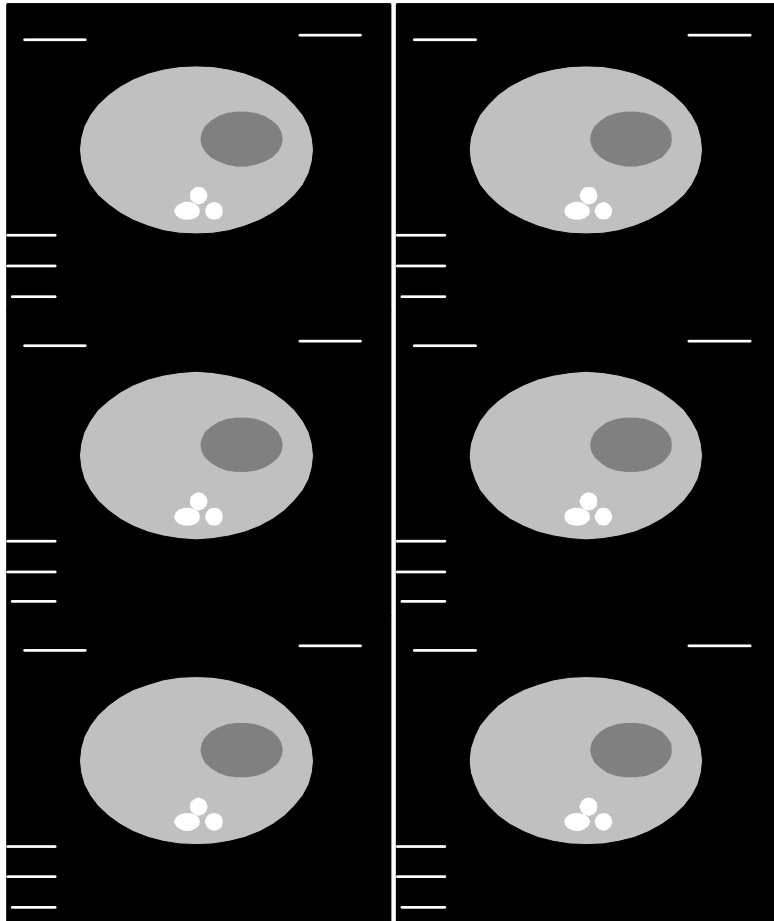
X-ray rooms from examination to reading around 1990



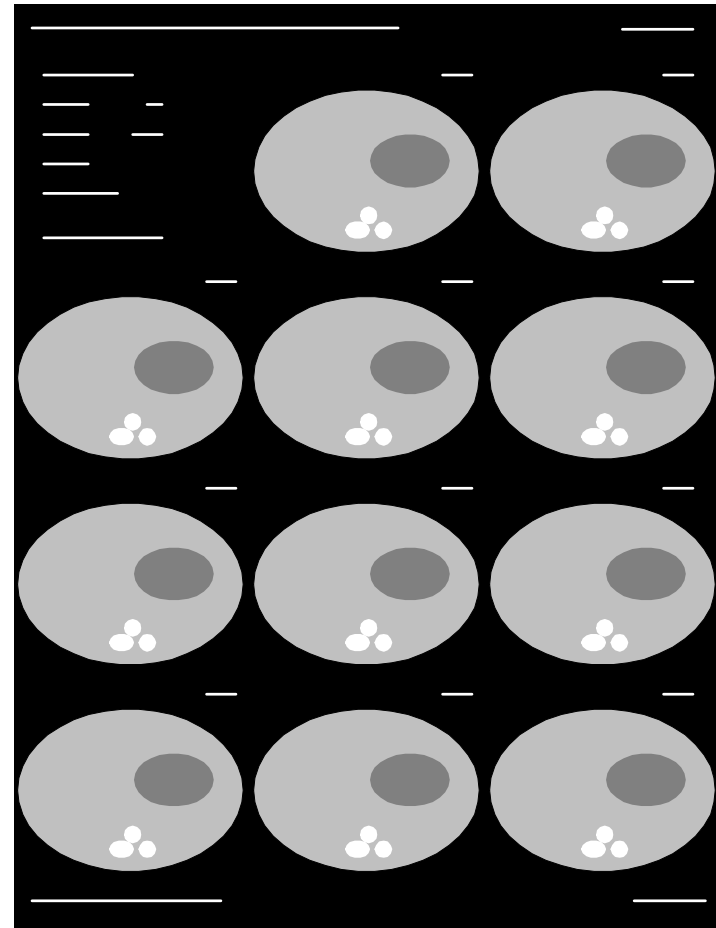
X-ray rooms with Easyvision applied as printserver



Comparison screen copy versus optimized film



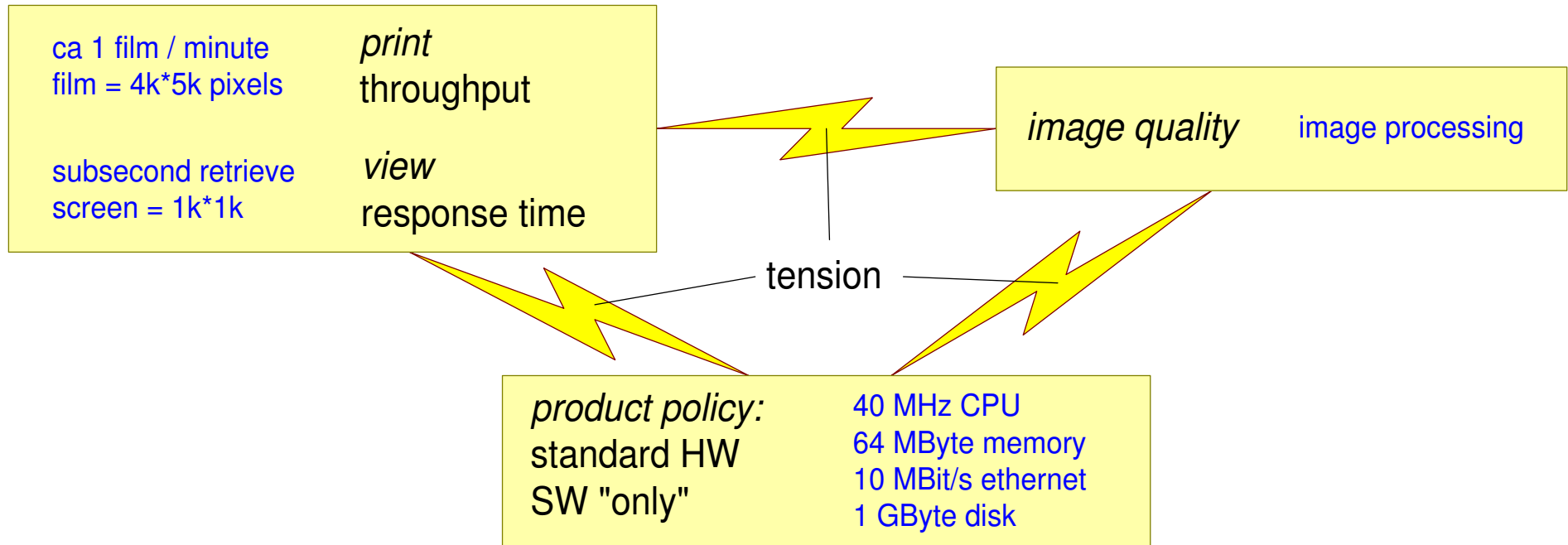
old: screen copy



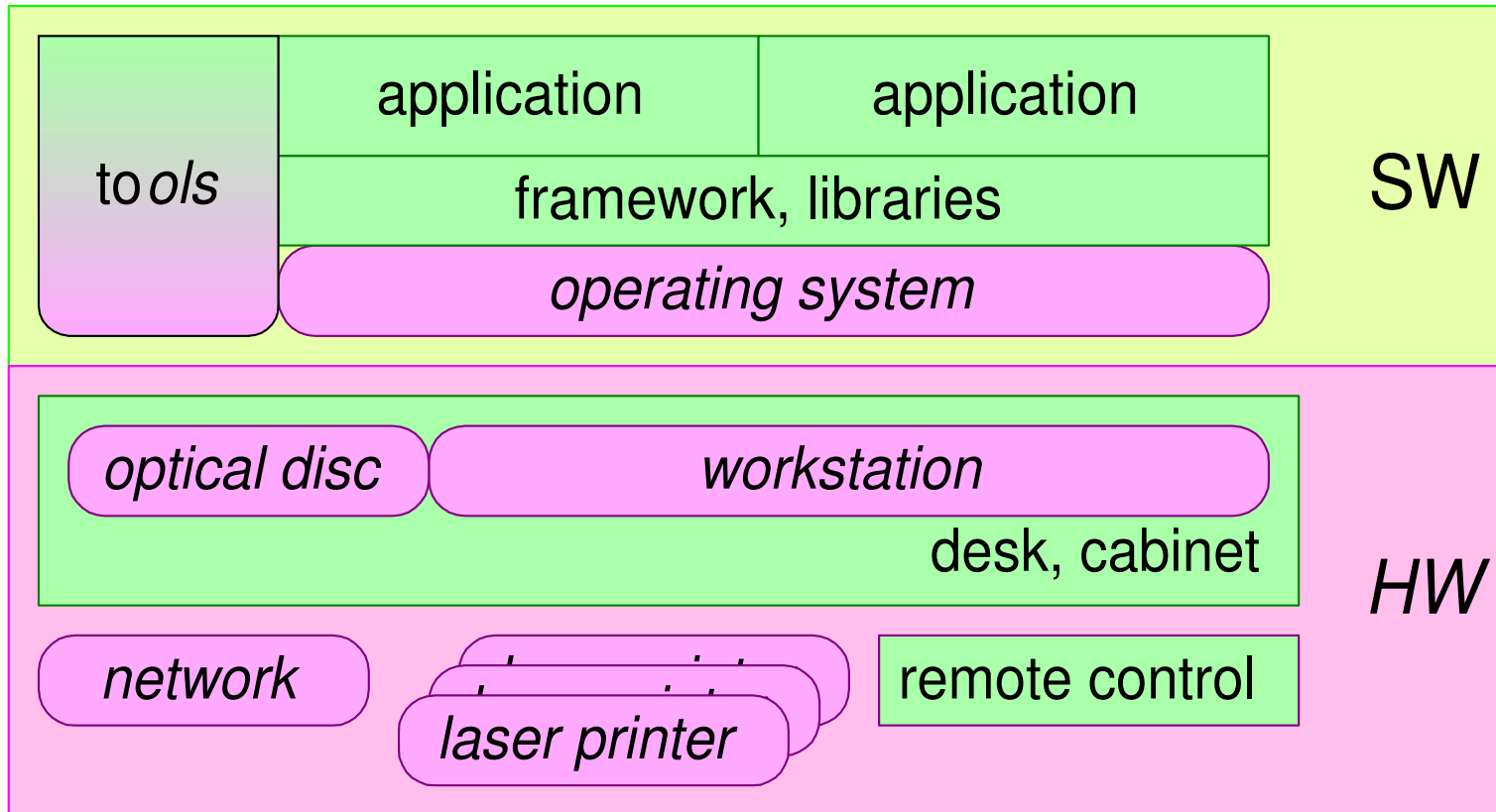
new: SW formatting

20 to 50% less film needed

Challenges for product creation



Top level decomposition



Technology innovations

- standard UNIX based workstation
- full SW implementation, more flexible
- object oriented design and implementation (Objective-C)
- graphical User Interface, with windows, mouse et cetera
- call back scheduling, fine-grained notification
- data base engine, fast, reliable and robust
- extensive set of toolboxes
- property based configuration
- multiple co-ordinate spaces