

MTA Conference
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Approaches to Legacy Systems:

FileMan-Kernel-FixIT + Finland, Nigeria – USA?

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Artwork © Kristiina Korpela: Creation, 1998-99.
Wild berries on paper maché.



MUSTI: "Finland's homemade Vista"

- **MUSTI** = FileMan/Kernel based hospital applications portfolio developed in mid-1980s
- Currently in most (over 30) major public hospitals
- Half a dozen vendors for different applications
- Comprehensive, adjusted to fit the requirements by everyday use, become part of healthcare delivery
- **But:** User interface and system architecture outdated already by late 1980s
- Teaching hospitals set up a joint company by early 1990s to completely replace the core applications
- **But:** The replacement system is still not ready, will not cover all applications, requires PCs all over (today 2000 PCs, 2000 terminals in the biggest case)



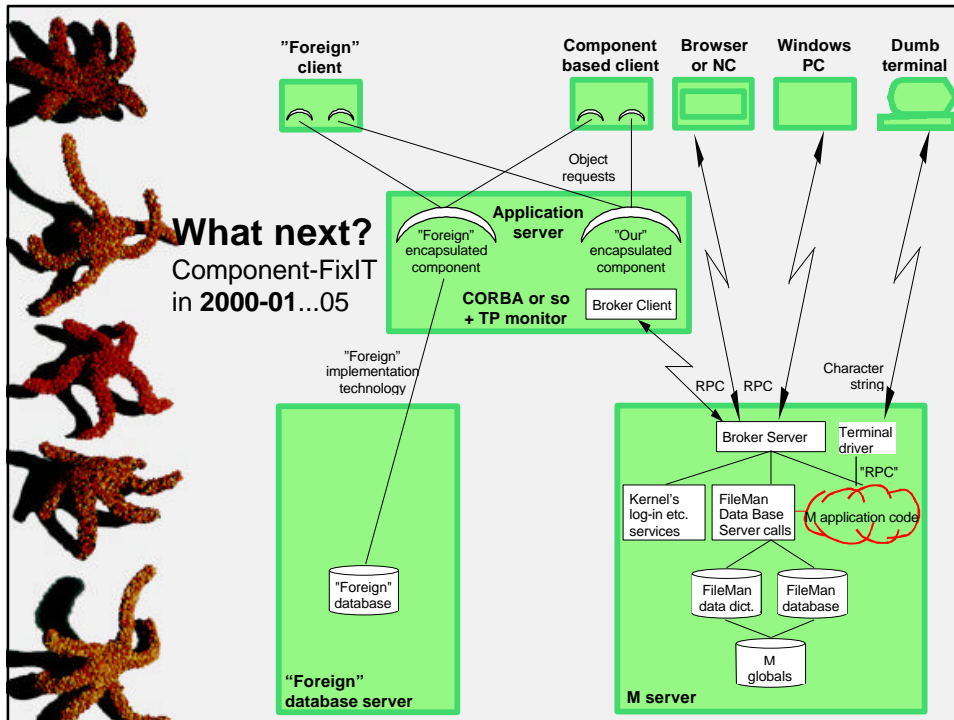
Modernizing MUSTI: The way to FixIT

- Modernization project started in 1995 by one vendor, three hospitals and our university
- Focus on departmental etc. non-core systems
- M and non-M **alternatives** studied in **1995-96**; FileMan database was found worth being retained, non-M technologies to be used on client side
- VA's Broker was released simultaneously, accepted as the client-to-server linkage
- 16-bit **Delphi-FixIT** toolkit was developed in **1996-97**, 32-bit version released in January 1998, sold to four vendors
- Half a dozen applications developed so far, mainly by University of Kuopio



Modernizing MUSTI: Further to Web-FixIT

- R&D project in **1998-99** to develop a **Web-FixIT** toolkit, funded by the National Technology Agency with a consortium of four vendors and three university hospitals
- Same architecture, same building blocks, same properties as with Delphi-FixIT, but in **Java applets**
- Broker in Java also
- **Conversion = re-composing**; fast!
- Browser used only to deploy applets
- For infrequent users, not to replace Delphi, not to replace all other kinds of web-to-M interfaces
- Tested in small scale, to be released to the consortium in October, to outsiders in January 2000



- Situation with MUSTI + FixIT now**
- **“Core applications”** not yet replaced by new non-M technology, in the pipeline with problems
 - **Domestic software industry** suffered from the period of stagnation & “great leap forward”
 - **Hospitals** suffered by dilapidating systems with no competitive alternatives
 - **FixIT technology** proved productive and mature in university applications, spreading slowly among vendors and hospitals
 - **Hesitation** about the long-term viability – “will the VA accept us or undermine us?”



Nigeria: Scaling VistA down to bottom

<http://www.uku.fi/atkk/ife/>

- **Joint R&D project** on health informatics in Ile-Ife by the Obafemi Awolowo University, the OAU Teaching Hospitals Complex, and the University of Kuopio, started in **1989**
- Jointly developed in-patient system in use since **January 1991**, based on VA's FileMan/Kernel and ADT package of 1988, PC + DTM + 3 terminals
- "Made in Nigeria Primary Healthcare and Hospital Information System (**MINPHIS**)" project started in **1998**
- 2nd generation system based on NT, Caché, FileMan, Broker, FixIT – for national use, with the new civilian government's moral support



Conclusions in Finland:

- **What tools did we use?** FileMan + FixIT
- **How did we use them?** Platform-independent framework architecture – first GUI, then "WUI", next components, "ultimately" OODBMS
- **Why did we do it that way?** Don't fix what ain't broken, fix the thing that is (=interface)
- **What good things did we discover?** No big bang with replacing terminals, decades (!) of database and skills retained
- **What bad things would we rather avoid?** Narrow basis – is it sustainable?
- **How would we do it if we had it to do over?** Don't try to freeze and leapfrog, better to build on your strengths and have a migration path



Conclusions in Nigeria:

- **What tools did we use?** NT + FileMan + FixIT
- **How did we use them?** Finnish tools were internationalized, a few hours of training given
- **Why did we do it that way?** System had to be upgraded, the approach had worked in Finland
- **What good things did we discover?** Scaled down beautifully, cheap (except Caché), modern tools attract students, productive and efficient, there is a path to future and not a closed door – something for the USAID to spread and fund!
- **What bad things would we rather avoid?** Lack of support and training due to lack of funding
- **How would we do it if we had it to do over?** Earlier, without military government, with Hardhats



Conclusions in the VA and the "Hardhats community" in the USA?

- **Could you use the FixIT tools?** Technically sure, but how to get the approval and support?
- **How could you use them?** Using Hardhats as user community, VA + "Hardredhats" as support
- **Why should you do it that way?** We cannot support you but we want to pay back to VA
- **What good things would you discover?** Increased productivity, path to modernity and beyond
- **What bad things should you rather avoid?** ???
- **How should you do it if you had it to do over?** Don't freeze, build on your strengths, make a stepwise strategy, think at least two steps ahead