

NOKLUS Diabetes

formerly known as FastTrak

A structured documentation tool

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Background

- Based on an existing app, "FastTrak"
 - A framework for structured clinical documentation
 - Originally planned for clinical studies in Pfizer Norway
 - Used in different settings, including vascular surgery clinics, nursing homes, occupational health clinic, clinical studies, paper tracking for clinical studies
- Main focus and selling point
 - day-to-day documentation needs for clinical professionals in an outpatient diabetes clinic
 - and NOT data collection for NDV
- Incidentally, it also...
 - Collects all variables for NDV

Keeping focus...

- Where will work for NDV be done?
 - NDV has around 3 FTEs, which means...
 - we leave > 99% of the work involved in a successful diabetes register to others!
- Our success depends on
 - Somebody else, and hence ...
 - Our ability to
 - Solve "somebody else's problem", which means to...
 - Meet the everyday needs of the clinical professions involved in diabetes care

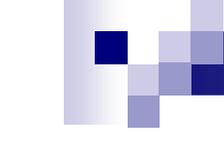


The 70% failure rate

- Creating new software is very risky
 - Reducing risk is important
- NOKLUS diabetes is
 - A scaled down version of the application FastTrak, with some additional features
 - We hope for better odds by building on something proven to work in similar settings
 - But, it is still too early to judge, we may still fail...

Design overview

- FastTrak has 5 components
 - A single Win32 executable file, written in Delphi
 - A structured but flexible EAV (entity, attribute, value) database with plenty of metadata, running on Microsoft SQL Server
 - All data access through an API layer in stored procedures
 - A form designer, based on an ASP web survey tool from www.classapps.com
 - XHTML report templates with embedded ASP-like macros (e.g. `<%=Patient.Name%>`)
 - A third party visual report designer, coincidentally called FastReport, from www.fastreport.ru



Design considerations

- Flexibility, a "triple edged" sword
 - in the right places => viable software
 - in the wrong places => chaos
 - in unnecessary places => extra work
- Problem is deciding which is which...
 - Knowledge about what changes and what doesn't can come from domain experience.
 - It can be helpful to be a physician



There is rigidity in...

- The "execution engine" of the framework
 - This is a Win32 executable that needs to be recompiled for changes
- What the forms look like
 - but not what they contain
- The problem list
- The medication list
- The drug allergy list

There is flexibility in the...

- Subpopulation selection, like...
 - Patients with HbA1c > 7%
 - Pregnant women
- Contents of the forms
 - XML specification from survey tool
- Report templates
 - XML files in a certain directory structure
- Production of summary notes
 - RTF via clipboard to the main EPR
- Clinical decision support
 - Scripted via T-SQL stored procedures

Changes to any or all of these components may be updated/downloaded at any time, without alerting other users, or even closing the down the application.

Integration with EPR system

- Simple integration with two hospital EPRs
 - Reads and stores patient demographics automatically when patient changes in EPR
 - Reads labdata from external systems when patient is loaded into FastTrak
 - Writes structured RTF (Rich Text Format) back via clipboard as manual process

It is important to note that DIPS has 70% of the market for hospital EPR systems in Norway, and the rest is shared by Siemens and TietoEnator. Integration work should not be overwhelming.



Implementation status

- FastTrak installations in general

- First installation

- Denmark 2002, vascular surgery

- Largest installation

- 500+ users at 8 nursing homes in the city of Bergen, adding 300+ forms every day.

- NOKLUS Diabetes installations

- First installation

- Stavanger, april 2008

- Second installation

- Bodø, yesterday