

# A Simple System for the Complicated Cases?

## Using Service Design Methods to Visualize Work Practice

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- Master's student at the Department of Informatics, University of Oslo
- Interdisciplinary background in informatics, design, eGovernment and law
- Research group: Design of Information Systems
- Currently writing a thesis on the use of IT systems in supporting case handler practice at the Norwegian Agency for Quality Assurance in Education (NOKUT)

# Abstract

- This paper presents a study of work practice at the Norwegian Agency for Quality Assurance in Education (NOKUT), a Norwegian agency working with recognition of foreign education.
- Through ethnographic field studies and methods from service design, we explore, analyze and visualize the steps of a digital case handling practice.
- We show how cases and case handling practice vary in complexity due to different circumstances, and how levels of complexity are not dependent on the type of case handling system used.
- Further, we discuss how this rich variety of cases would benefit from different levels of digital system support in order to support and not hamper the case handling process.

## Research questions

RQ 1: What are the communalities and differences between the various case handling processes?

RQ 2: How do the digitalised case handling systems support the case handlers' processing of different cases?



# Methodology and methods, field studies

- Ethnographically inspired case study
- Fieldstudies / participant observations
  - Touchstone tours
  - Contextual inquiry
- Interviews
- Document studies
- Co-creating journey maps

# Case handling at NOKUT

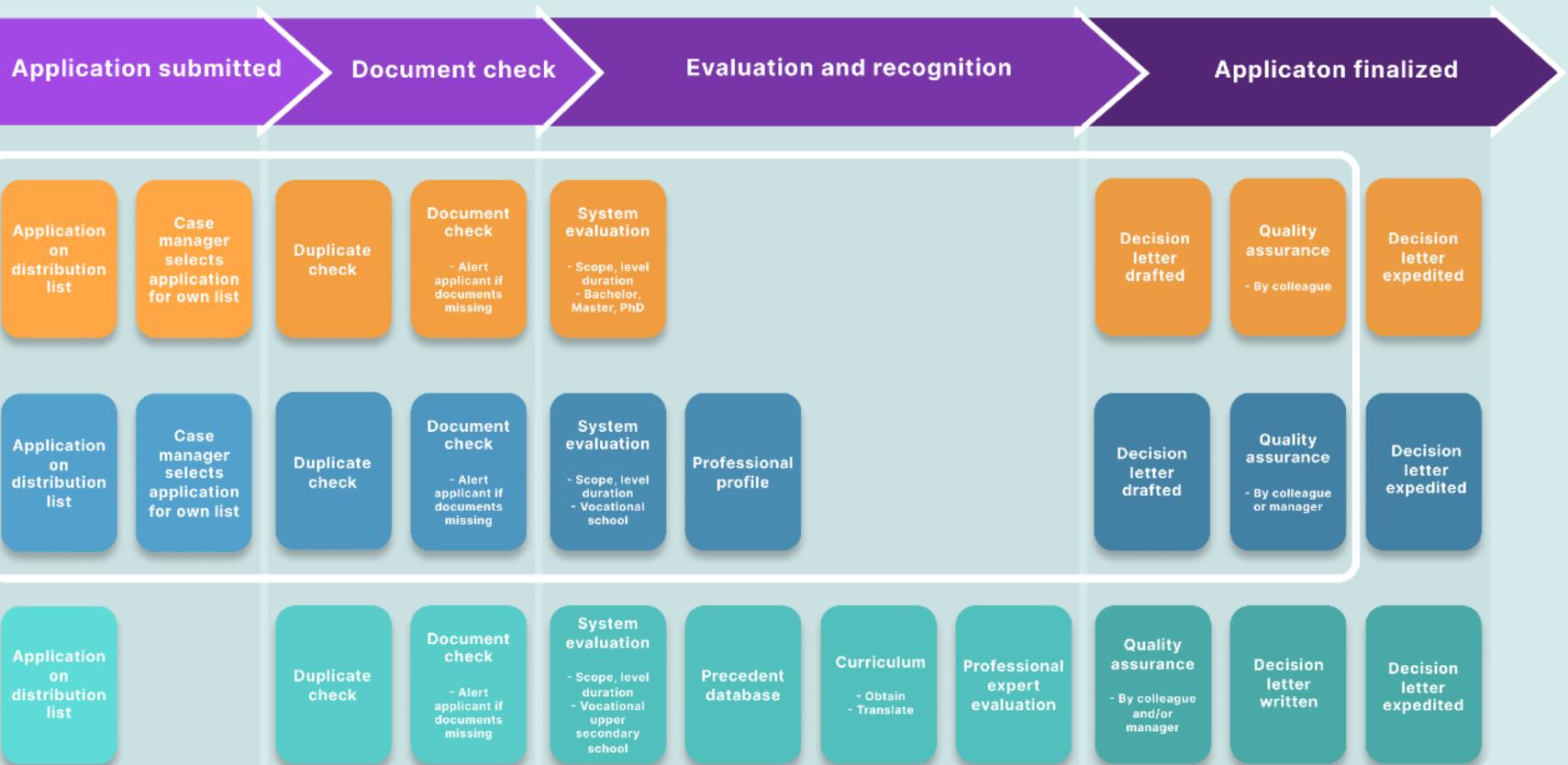
- Three types of applications
  - Recognition of Foreign Higher Education
  - Recognition of Foreign Tertiary Vocational Education
  - Recognition of Foreign Vocational Education and Training
- Two systems used
  - Public 360°: off the shelf case handling and archival system
  - ESAM: custom built case handling system

## Case handling takes place in several sections

- Section for Recognition of Higher Education
- Section for Recognition of VET and TVET
- Special cases: Section of Interview-based Procedures aka The Refugees Section
- Varying processing time: 7,5 hours to 329 days
- Most case handlers work alone, but are mutually dependent on applicants and a vast network of Norwegian and international teaching institutions and government agencies

## Core steps in the application process

1. Application submitted to NOKUT, and is picked/assigned to a case handler
2. The case handler makes sure all relevant documentation is submitted
3. The actual evaluation (varies across application types)
4. QA of the purposed outcome, decision letter is sent to the applicant



## Differences in complexity

- Recognition of higher education is «simple»: usually well documented, established international standards for credit conversions and a global system of government agencies similar to NOKUT makes for a relatively standardised practice
- Recognition of VET and TVET is more complex: foreign curriculum must be obtained by NOKUT and approved by experts. Recognition of VET and TVET is rare in other countries, little international conventions exist, and there are no formal standards for conversions across fields or regions

## Levels of complexity in practice

- Practice varies based on the conditions and circumstances in which the practice is performed (Schmidt, 2014)
- Recognition of higher education is a fairly standardised practice, where few unforeseen circumstances result in a practice closer to «rule following»
- Recognition of VET and TVET is victim to a variety of unforeseen circumstances, and the more complex reality of these cases is reflected in a more complex case handling practice, where skilled case handlers adapt their process to manage the circumstances

## Discussion

- Using journey maps to map the case handling process reveals varying levels of complexity through visualising the steps that make up the process. Co-creating such maps creates shared understanding between researchers and case handlers
- «Understanding work practices as a basis for systems design has become a practical necessity» (Schmidt, 2016). Using mapping methods from service design in conjunction with an ethnographic approach boosts researchers understanding of practice, which is valuable for designing systems that support the practice.

# Implications for the design of case handling support

- The level of complexity in the case handling ranges from low (HE), to middle (VET) and high (TVET)
- The most complex cases and practice are today processed by the off the shelf system Public 360°, providing little support or guidance
- Higher education, the least complex cases and practice, are today supported by ESAM, a custom built case handling system which closely guides and supports case handlers through a set series of case handling steps

# Implications for the design of case handling support

- It would be almost impossible to design detailed system support for all possible steps in a complex case handling process
  - Such a system would risk being cumbersome and time-consuming in use as it would need to represent several possible steps and actions for a case handler to take, where many would be irrelevant in most cases
  - It could additionally hamper case handling as it may require navigating irrelevant choices and ticking off irrelevant boxes. It would require negotiation and various workarounds to use, and we argue it would offer case handlers little real support for their work

# Implications for the design of case handling support

- ESAM should mirror the current case handling practice, by providing a minimal structure of support to give case handlers “room” to process applications as best, based on the circumstances and complexity of the actual case.
  - By keeping the support minimal, case handlers won’t be hampered by unnecessary steps when using the system. They have already proved their capability to manage applications with only generic archival system support
  - Case handlers of complex cases would benefit from a system where the steps that make up the handling process are represented with more room for variety and minimal structured system support

# Implications for the design of case handling support

- If in the future, more countries change their practices and start recognizing VET or TVET educations, international resources and standards for such educations may develop
- These new circumstances could affect NOKUT's case handling practices by reducing the level of complexity for these cases, which again could affect the suitable level of system support

# Conclusion

- The level of complexity in the type of application processed, rather than the type of IT systems, is what affects the complexity of the case handling
- When developing new system support for the most complicated cases, we suggest a design that provides a minimal structure of support to give case handlers “room” to process applications as best based on the case handlers’ experience and the rich variety and circumstances of the cases

# Conclusion

- We purpose this approach to systems design can be useful in other development of case handling systems, where designing system support for all circumstances and complexities in case handling practice would be both cumbersome, expensive, time-consuming and unnecessary

## Future research

- Future research on digitalization of work processes could include whether visualizing complexity of the case handling process could be important for assessing which case handling practices are eligible for automation