

Appendix A

Checklist for the Design Cycle

This checklist can be used to decide what to include in a technical research report (internal report, published paper, or thesis), as well as to read a research report written by others. In artifact-oriented research, treatment design and validation will receive more attention. In evaluation- and problem-oriented research, the questions under implementation evaluation and problem investigation will receive more attention. Exclamation marks indicate things to do.

Implementation Evaluation/Problem investigation

- Who are the stakeholders?
- How (in)different is this project to them? Why? (Reasons)
- What are the stakeholder goals? Why? (Reasons)
- What conceptual problem frameworks are in use? (Concepts, variables, components, architectures)
- What conceptual problem framework will I use?
- If an implementation is evaluated, what is the artifact and what is its context?
- What are the phenomena? Why do they happen? (Causes, mechanisms, reasons)
- What are their effects if nothing would be done about them? Do they contribute or detract from goals?

Treatment Design

- Specify requirements and context assumptions!
- (Requirements × context assumptions) contribute to stakeholder goal?
- Available treatments?
- Design new ones!

Treatment Validation

- (Artifact × context) produce effects? Why? (Mechanisms)
- Effects satisfy requirements?
- (Alternative artifact × context) produce effects? Why? (Mechanisms)
- (Artifact × alternative context) produce effects? Why? (Mechanisms)