Naming the **P**ain **i**n **R**equirements **E**ngineering
NaPiRE

Manifesto

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Naming the **P**ain **i**n **R**equirements **E**ngineering (NaPiRE) constitutes a globally distributed family of surveys on Requirements Engineering (RE) practices and problems, initiated by Daniel Méndez and Stefan Wagner in 2012. NaPiRE constitutes an academic (non-profit and open) initiative which aims at establishing holistic theory on industrial practices and problems in RE - the first of its kind. Each survey replication strengthens the robustness of our theory and extends it with a particular focus on:

- the status quo in company practices and industrial experiences,
- problems and how those problems manifest themselves in the process, and
- what potential success factors for RE are.

To establish a reliable theory in RE, which serves the community to steer problem-driven research, we jointly conduct our surveys in a distributed and bi-yearly replicated manner while committing ourselves to the core principles and values described below.

Values and Principles

All NaPiRE researchers commit themselves to certain values and principles. These are:

Openness: Openness begins by cordially inviting researchers and practitioners of any software engineering related community to contribute to NaPiRE and ends by disclosing our (anonymised) raw data and reports without any restrictions or commercial interest to the public. NaPiRE therefore commits itself to full open science practices; it is an initiative run by the community for the community.

Transparency: All results obtained from the distributed surveys are open to the public (after appropriate curation), including the (anonymised) raw data, codebooks, and (statistical) analysis scripts and code sheets from the qualitative coding. This shall allow other researchers for an independent data analysis, interpretation, and replication.

Anonymity: The participation in NaPiRE as an industrial respondent is possible by invitation. However, no personal data is collected and every data set obtained from the survey will be carefully analysed for information that might be traced back to a specific company to ensure that no personal data will be disclosed to public. That is, we guarantee that no answer set can be related to survey participants.

Accuracy and Validity: With accuracy and validity, we refer in particular to the data collection and to the data analysis procedures. Each question in the survey is carefully defined according a jointly elaborated theory to specifically corroborate or refute existing expectations. The data analysis is furthermore performed in joint collaboration by different empirical software researchers to maximise the validity of the results.

NaPiRE Project Organisation

NaPiRE is organised into *NaPiRE survey runs* (replications) which encompass the

1. **Preparation and Data Collection** including adjustment of the instrument based on previous runs to steer theory building and the actual data collection, and the
2. **Data Analysis and Disclosure** including the analysis of the quantitative and qualitative data obtained, the interpretation of the data and the publication, and the data disclosure,

each with a duration of approximately one year. After each NaPiRE survey run, the steering committee curates, anonymises, licenses, and discloses the data sets to the public for further non-commercial use by the research community. We are convinced that open data is key to achieve our goal of supporting problem-driven research. Finally, to jointly work along the runs, the community has annually organised workshops.

Every NaPiRE survey run is concluded with at least one joint publication. This joint publication is driven by core writing teams, formed in joint agreement by the community, and it shall serve the purpose of community building and results dissemination. Authorship is defined by contribution to the overall initiative and the order is agreed on in advance within the whole NaPiRE team. After the joint publication, the steering committee curates the data and discloses it to the public.

Project Organisation

The NaPiRE project architecture is structured into a **steering committee** and several **national teams** representing different countries. The steering committee centrally organises the overall team organisation, the infrastructure, and the overall survey runs. The steering committee consists of:

- Daniel Méndez (primary contact)
- Stefan Wagner
- Michael Felderer
- Marcos Kalinowski

National teams are self-organised teams who run the NaPiRE replications in their respective countries of affiliation. That is, they invite industry representatives to participate in the survey runs along the data collection phase, support in the overall data analysis, and prepare the country-specific results for distribution to the participants. Further, when necessary, they support in the translations of instruments and the data.

Joining NaPiRE as a national team member is done upon request and provided:

- the candidate forms active part of the research community,
- the steering committee agrees by majority vote, and
- the respective national team agrees by majority vote.

Active contributions to the research community (empirical software engineering and / or requirements engineering) are key to ensure the representativeness of the team for the topics addressed in NaPiRE. Membership proposals can be informally directed to the primary contact person in the steering committee and should include a brief description of the candidate's background, affiliation and contact information, the planned contribution to NaPiRE, and the expectations from the collaboration. Continuous membership in NaPiRE is further dependent on the commitment of the researchers to the project (see below). After each NaPiRE survey run, the steering committee re-evaluates the activities within the team and decides upon ongoing memberships.

Infrastructure

NaPiRE has a centrally organised infrastructure including a website, a central web-based survey tool where survey replications are implemented, and an internal repository where all the tools and analysis scripts as well as all the (uncurated, not yet anonymised) data is stored for the analysis. The internal repository is closed to the community only and contents can only be shared with third parties after the explicit agreement by the steering committee. The central infrastructure is organised and financed by the steering committee.

Commitments by Team Members

Each member of the NaPiRE project commits herself or himself to the following:

- To adhere to the overall **principles and values** of NaPiRE and to show a high standard of scientific working and integrity in context of the data handling in any NaPiRE-related publication and/or presentation.
- To **actively contribute** to the overall initiative. This includes active contribution to the preparations and data collections, and to the data analyses and publications.

The data obtained via the NaPiRE survey runs is licensed under creative commons agreement and disclosed to the public by the steering committee after the joint community publication and after curating and anonymising the data.

Prior to the data disclosure of a specific NaPiRE survey run:

- Every national team member can independently analyse and report on the data from the respective country only provided the agreement of the other national team members and the acknowledgement of the steering committee.
- Every national team member actively contributes to the data collection and analysis, e.g. along the annual workshops.

Every NaPiRE member finally commits herself or himself to the data protection of the NaPiRE data before it is disclosed by the steering committee, in particular before it is curated and anonymised so that the principles and values of NaPiRE can be ensured.