7 Summary

The work at hand shows how a continuous employee survey with a distributed over time data collection can be structurally and technically realized.

The survey’s study design evolved in two steps. First, a conventional employee survey was repeatedly executed, but instead of collecting answers from participants in one coherent session, the whole cycle between two consecutive survey iterations could be used for answering the questionnaire. Shortcomings in this approach led to the second and final survey design, which relinquishes static answering cycles. Instead it allows participants to vary the amount of answers they give, which is ought to maintain user acceptance and thus a sufficient participation rate over time. The final survey study design also abolishes the conventional questionnaire concept as items are attributed with frequencies at which they should be answered. This has the effect that no or only a subset of items is relevant at any point of time and compels the striven for scattered data collection without confining the users’ self-determination about when they want to answer survey questions.

To enable participants to answer survey items, three clients were developed in a process that combined evolutionary and throw-away prototyping: A browser-based client, which is easy to implement in organizations as there is no need for additional software, was the starting point. To reduce the effort that is needed to answer a question and to offer more sophisticated reminders and triggers, a second, Java-based desktop client was developed. A third and final prototype was implemented for smartphones. It uses contextual information and user-feedback to make estimations about a user’s current willingness to answer survey questions.

This final chapter summarizes how previously formulated problems have been solved within this work (section 7.1) and highlights contributions of new knowledge created within this thesis (section 7.2). The chapter is wrapped up by an outlook that covers unsolved and newly created problems and tasks, which are potential connectors for future works (section 7.3).

7.1 Conclusion

The thesis revolves around answering the central questions that are formulated in section 1.1 on page 9. In the following, each of these questions is picked up for describing how and to what degree it is solved within this work.

How can a continuous survey with a distributed data collection be structurally organized? The demand for a continuous employee survey originated from the combination of two observations:

- Employee surveys are of importance for human resource- and organizational- development and are implemented by a majority of companies in Europe and the USA (compare section 2.2).

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159 An item’s relevancy depends on the user’s current willingness to participate and the time since the item last was answered.
The repetition rate of employee surveys within companies is too low to sample all relevant changes in modern working scenarios (e.g. changes of teams or projects) in time (compare sections 2.2 and 2.3).

To approach the task of realizing a continuous survey an initial study design adapted the questionnaire and result computation of a conventional employee survey and implemented it as a longitudinal study with extended timeframes for answering the items (section 4.3). This was done by predetermining points in time that act as junctions for successive survey iterations. For the participants that means that they are ought to answer the questionnaire before the next junction (i.e. deadline). When a junction is reached, the results of the closing answering cycle are computed and a new survey iteration starts. To foster a distributed data collection (participants should answer small sets of items distributed over time and not in a coherent session), the survey system limited the amount of answers that could be given on one day (page 70). This restriction earned harsh criticism from test users, as they felt that they were artificially hindered at completing their task (page 100). This study design allowed the computation of profound results (because items and result computation could be adapted from existing surveys, section 4.3.1), which could be compared organization-wide (because the answering cycles synchronized the result computation for all participants from an organization). The approach was tested over longer timeframes in real working contexts (chapter 5). The quantitative evaluation of these test-runs showed, that the vast majority of users answered the whole questionnaire in one coherent session (per survey iteration), instead of scattering the answer process over time (section 5.2.2; Figure 28). A qualitative evaluation (section 5.2.2; pages 107ff.) showed that the survey did not really integrate into everyday work, but instead it was perceived similar to an unwanted ‘homework’ that had to be completed before the next deadline. Answering the same items, every few weeks created a routine. It was stated that some questions are more interesting to answer repeatedly than others are. The more dynamics the answers to an item featured, the more interesting it was for users to answer the item repeatedly. The interviews that were conducted also yielded the insight that different users had very different opinions about how many items they are willing to answer within a specific timeframe.

To overcome these deficits the survey’s study design was redesigned under the premise of enforcing less restrictions while fostering the users’ self-determination. Instead of specifying the amount of answers users should give, the new study design allows participants to be in control about how much data is collected from them. This implies a pragmatic trade-off in terms of social scientific accuracy. Having to deal with heterogeneous sets of data was accepted for the sake of maintaining sufficient participation rates by granting users more self-determination. In practice, this meant omitting deadlines and the conventional questionnaire. The second server prototype (chapter 6) implements a study design that is based on items, which are attributed with frequencies at which they should be answered (section 6.2.1). In combination with a user’s estimated
current willingness to answer items and the time that has passed since an item last was answered, these frequencies are used to select a small set of questions that should be answered by the participant (section 6.2.2). This approach has several benefits in comparison to the initial study design:

- It enforces the distributed over time answering of items, while preventing that users feel hindered from answering the whole questionnaire. This is because no items or only a subset of the questionnaire are relevant (and thus accessible) at any point of time.
- It enables collecting answers to different questions at different frequencies. This way items whose answers underlie higher dynamics can be presented more often to the users than others.
- It pays regard to the inter- and intrapersonal changes of the amount of questions users are willing to answer over time.

While this data collection approach features characteristics that favor the ongoing maintenance of user-acceptance and thus participation, it creates heterogeneous sets of data on which conventional result computation cannot be applied (different items are answered at different rates, users give answers in reference to different points of time, etc.). Creating useful survey results from the collected data is subject to future work (see section 7.3.1), but a first possible approach is presented in section 6.2.3.

Central question 2

How can the answering of survey questions be best integrated into working life?

This question deals predominantly with the prototypical implementation of the survey clients or, more precisely, with how the clients realize the functionality of letting participants answer items and how the participants are notified and thereby triggered to answer these items. A premise that was followed in this work to achieve a high integration into daily working life was fulfilling the design goals of minimizing the effort that is needed to participate (i.e. answering items; section 4.2.3) as well as minimizing the disruptions caused by the survey system (i.e. notifications for reminding and triggering; section 4.2.2). Over the course of this work, it became apparent that satisfying these two design goals is not sufficient, because the characteristics of the survey questions prohibit them to be answered without experiencing a distraction from primary working tasks. Therefore, another design goal, namely the supporting of users’ self-determination (section 4.2.4) gained priority and had essential influence on the final prototype’s design. The final prototype also deviates from the original question, as it extends the survey’s participation context from working life to life in general. In the following, the process on solving the second central question is described based on the three developed prototypic iterations of the survey client:

1. **Browser-based client prototype** (section 4.3.4). As the initial research on the realization of a continuous employee survey was conducted in context of project KreativBarometer (section 1.5), the pragmatic first choice for a client platform was to create a web-application that could run in any browser. While this prototype was optimized for a fast access
of items, the need for starting the browser first and logging in, as well as the shortcomings in proactive, situation-sensitive notifying of users (the need for anonymity prohibited the usage of additional channels, like emails, to inform users about an insufficient participation) limited the possibilities in minimizing effort and disruptions (section 4.3.4.2).

2. **Java-based desktop client prototype** (section 4.3.5). This second client prototype reduced the needed effort to access an item to one single click. The application also features situation-specific, optional notifications that spawn from the windows notification area and appear as sporadic reminders or, in case of insufficient participation, to avoid missing a deadline (see page 88). The design of the Java-application was based on design recommendations from literature on task interruption and resumption (section 3.1.1). The notifications aim at being as unobtrusive as possible (e.g. by using a systems standard notification channel, which is well known by the user), because, as opposed to many other system events, the continuous survey’s reminders are not time-critical. The usage analysis of this prototype showed that users, despite being enabled to answer items quite fast, chose to answer the whole questionnaire as a bulk (section 5.2.2; Figure 28). This observation corresponds with an assumption that was made based on literature research on task interruption; namely that the items of the survey cannot be answered en passant (page 46). Even though it does not take much time to answer an item (Figure 56 on page 201), the cognitive work that needs to be done to reflect about the current working climate, deletes the previous task representation and tears the participant away from the primary task, resulting in an interruption of the actual work. As a result, the initial idea of having single questions answered by users en passant, without causing a distraction from work, was dismissed in favor of a new strategy, which was implemented in the final client prototype.

3. **Android-based smartphone client prototype** (chapter 6). Said deficits of the initial survey integration strategy (see previous paragraph) and shortcomings that were identified in the evaluation of the previous prototypes (predominantly too little support of users’ self-determination about the amount of participation; section 5.2.2) led to a new approach of how to integrate a continuous survey into working life. While the original primary design goals of minimizing effort and disruption remain valid (and are effectuated in the 3rd prototype by featuring notifications with low interruption\(^{160}\) and high reaction\(^{161}\) levels [compare to section 3.1.2]), more emphasize was put on supporting a high level of self-determination (section 4.2.4). This especially meant notifying users in an

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\(^{160}\) Notifications of the final client prototype were designed to be as unobtrusive as possible. They use no sound, no notification LED and disappear after one hour if they are ignored. They cannot appear at shorter periods than 3 hours.

\(^{161}\) Clicking a notification brings the user directly to an item that can be answered. The GUI and navigation concept of the application is also optimized for enabling users to answer survey questions fast.
adequate amount. Thus, bothering users with notifications should be avoided for the sake of reducing the risk of losing user acceptance for the survey system. The third prototype allows users to influence said adequate amount of items by feeding back their estimation about the current amount of survey questions (Figure 48). In addition to that, the client prototype uses context information to make assumptions about the user’s current willingness to answer items (page 127, Figure 39), which makes it more likely that a notification appears in favorable situation (e.g. while commuting to work) than in an unfavorable one (e.g. a Sunday morning). A potential problem of choosing the smartphone, some peoples’ omnipresent companion, as a platform is the dissolution of boundaries between work and private time. While the third client prototype puts much effort into maintaining user acceptance, asking employees to participate in their free time risks to be refused ab initio. Whether employees allow their smartphones to be put to use for the ongoing survey, may depend on how well the client manages to orchestrate the amount and timing of notifications.

How can a sufficient participation rate be maintained over time? User acceptance is, like with a conventional one-time employee survey, the critical factor of success for achieving a sufficient participation. Literature research on employee surveys helped to identify design recommendations for creating an initial acceptance for the continuous survey (section 2.3). These include the providing of anonymity, the survey’s adaption to the organization’s structures and culture and internal explanatory work that accompanies the survey by informing the participants about its purpose and effects. The peculiar challenge for the work at hand was preserving this user acceptance over a long period of time as well as providing a continuous awareness of the survey to keep users from forgetting to participate. Section 4.2 formulated four design-goals for that cause: minimizing the effort for participation (section 4.2.3), minimizing disruptions caused by the survey’s questions (section 4.2.2), supporting users’ self-determination for the sake of maintaining acceptance (section 4.2.4) and providing reminding mechanisms for the sake of preserved awareness (section 4.2.1). These design-goals create an area of tension, especially in combination with the intended goal of collecting data in small sets distributed over time (section 4.2.5). On the one hand, the system needs to trigger the user repeatedly to answer a few questions; on the other hand, the survey system tries to be as unobtrusive as possible and aims at minimizing the needed effort to participate. As mentioned in the previous paragraph about the second central question, it showed during the course of research, that granting participants a high level of self-determination is of critical importance. The anonymity protects the employees from organizational pressure to participate. Thus, to maintain participation, the final system design gives employees control over...

• ...what they answer. Similar to a conventional survey, users can opt against answering specific questions. However, users can also lose the motivation to answer a specific question over time, if they have the
feeling that the rate at which the question is repeated is too high (which is a problem exclusive to a continuous survey; page 113). The final prototype offers the possibilities of assembling personal questionnaires and attributing recommended repetition rates to the single items (section 6.2.1).

- ...how much they participate. Users’ willingness about how much items they want to answer within a given timeframe varies on inter- and intrapersonal levels (page 109). A system that strives for collecting as much answers as possible without formulating rules is more likely to be accepted over longer periods than one that demands a minimum participation rate. Exactly this is the approach that is followed by the final prototype design.

A potential problem for maintaining participation over longer periods of time lies outside of the system’s range of influence: During the test runs it turned out, that some organizations have more dynamics in their working climate than others. Some companies used the tool for months, without detecting significant changes within the observed dimensions. Putting effort into the monitoring of the climate by answering items, while experiencing no improvements or even changes is unsurprisingly discouraging. The outlook (section 7.3.1) picks up the need for feeding back survey results into the questioning frequency.

How to regard intra- and interpersonal variances of the accepted amount of participation? Over the course of research for the thesis, it turned out that the amount of questions that users are willing to answer within a specific timeframe is a dynamic value (page 109). It varies for one participant on a personal level, as well as between different participants. To satisfy such variances, the final study design relinquishes deadlines and conventional, fixed questionnaires (which previously implied the amount of questions per time). Instead, it uses a concept, which appoints only a subset of the questionnaire’s items as relevant at any point of time (section 6.2.2). How often and how many items become relevant, depends on a user’s acceptance threshold (page 123). This threshold is an abstract representation of the user’s current willingness to answer survey questions. The participants can influence that threshold by giving feedback about how they perceive the amount of items they are currently notified about (Figure 48). A changed threshold results in items becoming relevant more or less often (Figure 36). To keep the amount of collected data as close as possible to the designated amount, the threshold automatically returns to a default value over time. With this approach, the survey system enables users to control their participation effort, while striving for the designated amount of collected data. This strategy confines rules and restrictions to a minimum and by this, provides the means to preserve user acceptance over a long time. The downside of this approach is that it creates very heterogeneous sets of data. Computing useful results from that data is the primary follow up task of this work (see section 7.3.1 for future work and section 6.2.3 for an initial proposal of how the task could be approached).

7.2 Summary of Innovation Created by this Work
The work at hand introduces two new concepts:
A novel study design for employee surveys was created that adds a continuous characteristic to the list of common frequency attributes (see overview of employee survey characteristics in Domsch and Ladwig 2013) for employee surveys. Extending conventional surveys with the characteristic of continuity is of interest in research areas of psychology (as insights on the dynamics of subjectively perceived realities can be gained) and the Information System Research community (as team climates within organizations can be measured with a higher granularity).

An open cognitive context awareness framework was designed and developed. Research suggests that current context aware systems are insufficient in making proper assumptions about a user’s cognitive/emotional context (using the example of the willingness to answer a survey question). To approach this shortcoming an abstraction layer was added to the conventional context aware system model (compare model of Hong et al. 2009), which outsources the context inference to autonomous context modules and external applications. By opening up the context aware framework, the user’s (cognitive) context becomes a system-wide\textsuperscript{162} property that can be influenced and put to use by multiple components. This contrasts conventional context awareness systems (see list of reviewed systems on page 41), which encapsulate the context inference and are limited to one specific way of inferring. The proposed solution that is shown within this work extends the research on context awareness in the field of Human-Computer Interaction.

A summary of said innovations follows:

Chapter 6 presented a novel study design for a continuous employee survey. The design’s emphasis lies on its data collection concept, which is optimized for maintaining participation over time and promoting the distributed over time answering of small sets of survey items. A conventional employee survey is an exceptional event; participants are usually pulled out of their daily work for a few hours and answer the questionnaire in one coherent session. This is a onetime event, or in case of a longitudinal study, gets repeated at relatively low repetition rates of several months or even years. In contrast to conventional surveys, the developed continuous survey asks the participants to bring up efforts on a nearly daily basis (this approach extends the potential frequency-attributes of employee surveys with “continuously” as a forth possibility; compare Table 4 on page 19; based on Domsch and Ladwig 2013). This extra effort increases the importance of user acceptance (which is already a critical factor of success for conventional employee surveys). Three design goals were pursued within this work to maintain user-acceptance (see Figure 8): The minimization of effort that is needed for participating, the minimization of disruption caused by the survey system and the support of the users’ self-determination of how they want to participate. While

\textsuperscript{162} Here system means the host system, e.g. a mobile device, and not the context awareness system itself.
the first two goals are primarily\(^{163}\) approached in terms of the technical implementation of the survey clients, the support of self-determination turned out to be limited by concepts that an initial continuous study design (section 4.3.1) adapted from conventional surveys. Predetermining how many items (the questionnaire’s cardinality) have to be answered until which point of time (deadline at which the answers are evaluated to compute the survey’s results) has to be accepted by all potential participants. There is diversity and variance in the users’ estimations about how many items per time are acceptable to be answered. The novel study design (section 6.2) follows a more liberal approach and relinquishes deadlines as well as rules about the amount of items a user needs to answer to participate. Instead, it adds a “designated frequency” attribute to the items, which indicates how often the item should be answered (page 121). This also improves user acceptance, as items can feature different designated frequencies based on their content (it makes sense to answer a question about stress, which may change on a daily basis, more often than one about organizational infrastructures). Based on their current willingness, users can differ from the designated amount of participation by answering items less or more often than the item-frequencies intend. In the developed prototypic implementation (section 6.3.2) a user’s current willingness is abstracted as a numeric value (the acceptance threshold; see page 123), which can be adapted by the user. This value returns to its default value over time to promote a participation rate that is close to the designated amount. Going without a static questionnaire and timeframes makes it also possible to enforce the desired behavior of having users answer questions distributed over time. The survey system uses the item-frequencies, the amount of time that has passed since the items have last been answered and the user’s current willingness to participate for determining only a subset of the items as ready to be answered at any point of time (relevancy concept; section 6.2.2). In summary, the data collection concept of the developed study design assesses the preservation of participation as the highest good. To maintain user acceptance (and thus participation) over time, it diminishes rules and requirements, but rather proposes a reasonable amount of participation effort, from which users are allowed to differ.

The final client prototype (section 6.3.2) contains a context awareness component that makes assumptions about the current situation’s suitability for asking the user to answer a survey question. In contrast to common approaches at context awareness, the solution that is presented within this work outsources the inference of a situation from contextual information to autonomous modules or even external applications. The conventional context aware system design is extended by an additional layer, in which situational information from said resources is aggregated to influence an abstracted representation of the user’s current cognitive context (i.e. his or her current willingness to answer a survey item). Literature research (section 3.3.2) revealed that context aware features in (especially mobile) applications can be increasingly found in the market, but that their performance, particularly concerning generic tasks, has not yet matured.

\(^{163}\) The minimization of the needed effort is also affected by the frequency, at which working climates can change, which in turn should determine the shortest repetition rate of survey items. Examining such frequencies is one of the future works that are connected to this thesis - see section 7.3.1
Applications that “know” a user’s cognitive context, as it would be needed to decide when a user could be bothered with a notification about the continuous employee survey, are beyond the present state of the art. Consequently, the prototypic developments that were conducted in scope of this thesis do not solely rely on context information to make such a decision, but rather use context awareness as a helper to optimize the decision of when to approach a user with a question. More precisely, the final client prototype implements a hybrid approach of system-adaptability (based on user feedback) and -adaptivity (based on context information) to decide when an item is presented to the user (section 6.2.2). Analyzing existing context aware systems (section 3.3.2) showed that the majority shares a common system design (Figure 7), but differs in terms of system attributes, like the formalism in which the context is captured or the used algorithms to infer information from the sensed context data (page 41). A single context awareness approach that has established itself, because it works best, is nonexistent. Thus, an open concept towards context awareness that allows the integration of multiple approaches was implemented in the final client prototype: The level of the user’s willingness to participate is abstracted as a numeric value (the acceptance threshold; see page 123). This value can be temporarily altered (Figure 37) by a context aware component to represent a detected favorable situation to answer an item (decrease acceptance threshold \(\rightarrow\) notification about an item becomes more likely) or an unfavorable one (increase threshold).

Concerning the system design, the conventional context awareness system model (Figure 7) is extended with an additional abstraction layer, which collects inputs from multiple context modules (Figure 38 and Figure 39). This modular concept has the advantage of not having to rely on one inference mechanism or formalism type. By exploiting the Android (the operating system the final prototype is implemented for) broadcasting mechanism the context inference can even be outsourced to other applications (Figure 49). External resources cannot only influence the acceptance threshold, but also read its status and use that information for their own means. For example, a navigation application could increase the acceptance threshold when it is active to decrease the likelihood of an item being presented to the user while driving a car or an email application may use the acceptance threshold’s status to decide if the user should be informed about less important mails at a given point of time.

Expanding this concept further helps to envision a scenario in which a device manages multiple representations of different cognitive features (e.g. busyness, happiness or excitement) of its user and applications can use these to adapt their own behavior to the estimated current condition of the user.

### 7.3 Connectivity for Future Work

Open issues and unsolved questions have been indicated throughout the thesis. This section summarizes possibilities for the continuation of the presented work. In correspondence to the previous section’s summary of innovation, this section is divided into a subsection that addresses open issues of continuously measuring company climates (section 7.3.1) and a subsection that covers possible future works in regard to the open cognitive context awareness framework that was introduced within this work (7.3.2).
7.3.1 Continuously Measuring Working Climates

Expanding the work that is presented in this thesis to be able to continuously measure working climates is of interest for the Information System Research community, which covers theory, research, and intellectual development for information systems in organizations, institutions, the economy, and society. To achieve reliability and validity in this measurement, several problems have to be approached:

While the trial run that framed the functional testing of the final prototype indicated that the changes to the previous survey design foster the intended scattered answering behavior\(^\text{164}\), an in-depth evaluation is still pending. A long-term test and a qualitative evaluation are needed to verify that the revised study design (especially the possibility to adapt the amount of participation to personal preferences) does indeed help to raise acceptance for the ongoing survey and thus maintain user participation.

The work at hand dealt with the question of how to optimize data collection in a continuous employee survey. To complete the developed method, its operationalization needs to be revised to examine if the calculated results really reflect working climate dynamics at a sufficient degree.

Items have been attributed with frequencies at which they should be answered by participants. Reasonable repetition rates for items have to be investigated on a scientifically sound basis. While the test runs used items from established questionnaires that formulate questions in a general manner, the continuous character of the study design could be used to focus participants on specific short-termed timeframes; e.g. “Within the last two weeks my tasks have been varied and diverse” instead of “My tasks are often varied and diverse”. Assets and drawbacks of this approach should be assessed in a social-scientific work.

Offering a high amount of self-determination about the amount of participation to users and using dynamic questionnaires results in collecting heterogeneous data sets. While section 6.2.3 showed a first suggestion, solutions of how to generate useful results from this data have to be found. This regards the need to aggregate answers for specific categories/dimensions (e.g. the dimension collegiality consists of three items, of which two got answered weekly and one got answered once a month. How can insights on collegiality be inferred from that data?), as well as for different participants (e.g. user A answered eight items this week, user B only two. How can a result for the team they belong to be computed?).

The introduction of this thesis argued that events that have impact on a company’s working climate occur more often than conventional survey systems are suitable to measure. This seems plausible when looking at modern working life, which is often coined by changing teams, processes or projects. However, do the measured results meet this expectation and what is a meaningful sampling rate for working climates? Does it change on a daily, weekly or monthly basis or

\(^{164}\) Which is no big surprise, as the implemented item relevancy concept and the dynamic questionnaire hinder users from answering the whole questionnaire in one coherent session.
do changes only happen as reactions to extraordinary events, like the replacement of a team-manager? During the research project KreativBarometer it showed that different organizations have different characteristics when it comes to the dynamics of their working climate: While remarkable monthly changes could be detected in some companies, climate histories that resembled a flatline could be found at other companies. A further development of the survey system in which a company’s working climate dynamics are fed back into the system to adjust the answering frequencies is thinkable.

A socio-technical process that framed the test runs for the system’s evaluation was designed in this work, but it only covered the initiation of the survey and a first event for reflecting the survey results. To successfully integrate the survey on the long term, a socio-technical process that orchestrates how and when the gained survey results are used on an organizational level is needed.

Promoting users to answer small sets of survey questions distributed over time was striven for to capture employee opinions in all kinds of situations and moods of daily working life. It has to be examined how participants use the freedom of being able to postpone questions or lower their participation rate for some days. Especially when thinking of stress as a mood-influencing factor, it is not unlikely that participants may tend to answer more willingly when they are in a stress-free or relaxed condition. This would mean a systematic error in the measurement.

7.3.2 Open Cognitive Context Awareness

The smartphone-based final client prototype contains a cognitive context awareness component that offers an interface, which enables context awareness modules and external applications to influence the user’s acceptance threshold (see page 123). This novel concept offers many potential points of connection for future works, mostly resided in the research area of Human-Computer interaction.

An obvious follow-up task is the development of further context awareness modules. These modules can use any type of data formalism and inference mechanism and exploit any kind of data to make assumptions about how the current situation may affect the user’s willingness to be bothered by a survey question.

Currently, any application that is installed on the same Android device as the third client prototype can send offsets to the acceptance threshold. To evolve beyond a prototypic status, a trust system, which manages which modules and applications are allowed to interact with the cognitive awareness interface, is needed.

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165 The research project used the first study design, which implemented survey iterations of three to four weeks.
It has to be qualitatively evaluated if the threshold concept that is proposed in this work is suitable to model a user’s cognitive context. This mainly depends on the context awareness modules that are put to work. A simple module, like the weekend module that is shown on page 145, surely does what it should (i.e. blocking notifications on weekends if the user wants that), but what about more complex context detections or especially the aggregated influence of several active modules? There is a need to assess modules individually, as well as their combined proposition about a situational influence on the user’s cognitive context. Furthermore, a suitable and sufficient granularity has to be determined for the acceptance threshold. Abstracting a user’s willingness to participate to a numeric value between one and five turned out to be adequate during the prototyping process, but can complex moods really be reduced to that? What about representing other cognitive features like happiness, excitement or busyness? It is thinkable to model any kind of cognitive features as simple numeric values. A device that is equipped with such a software would hold the interpretations of several current moods, emotions or cognitive status of the user. Applications could contribute to the accurate assumption of their levels, as well as adapt their own behavior to the user’s cognitive context.