DIGITAL.ME Annual Report 2010

http://dime-project.eu/

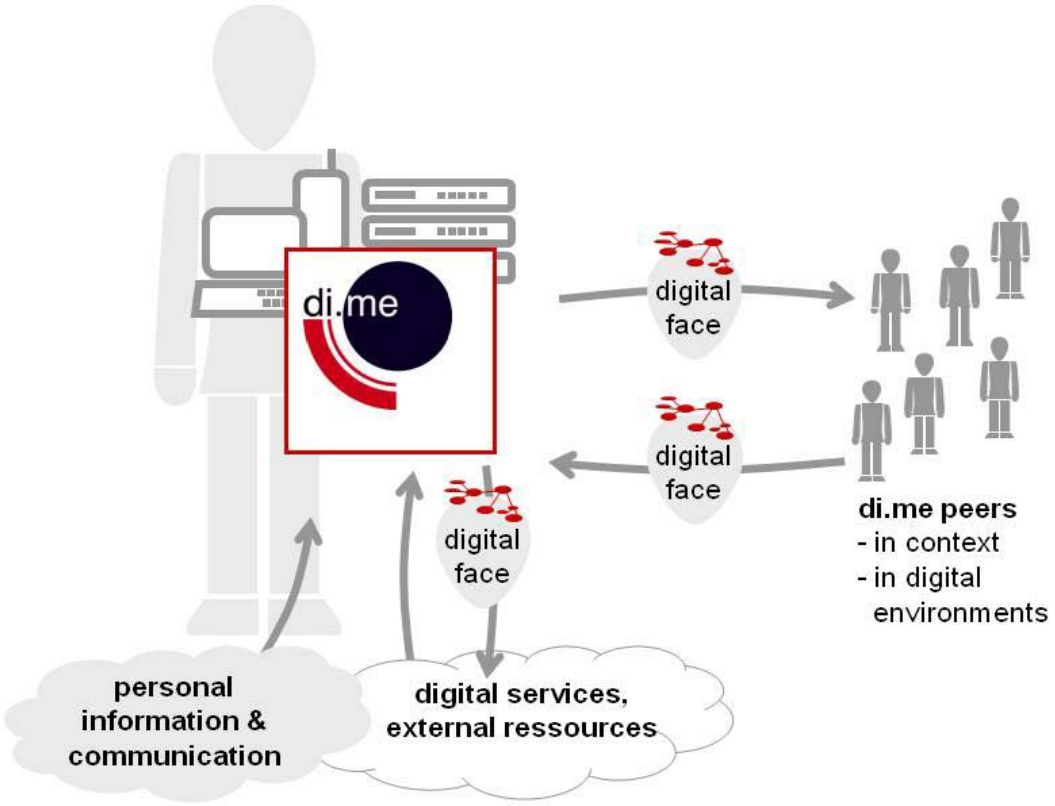
The use and disclosure of personal information for private and business life is a major trend in information society. di.me aims at integrating all personal data in a personal sphere by a single, user-controlled point of access: the di.me userware. This tool will run on the user's devices, and rely on scalable peer-to-peer communication in order to avoid external storage of personal data as far as possible and to enhance data portability. External services (e.g. web-communities, enterprise systems) will be integrated via gateways. Communication to individuals and services will make use of digital faces, i.e. user data selected for a particular purpose and context.

Summary of Activities

di.me started in November 2010 and initial work has concentrated on reaching a common understanding of the project's vision, objectives and technological foundations.
During the kick-off meeting, celebrated the 1st and 2nd of December 2010, all the partners have presented themselves, as well as their role and objectives within the project and the work to be performed in the work packages and activities.
During these two months, a first conceptualization and specification of the System Architecture has been carried out, the internal handling of requirement and use case collection was organised and first discussions on the semantic core, the security layer as well as user interfaces were taken.
In the next year efforts will be placed in defining the common architecture for all the digital.me userware, including the first draft of system architecture, specified scenarios and functionality and UI concepts. A proof of concept of desktop-application with reduced capabilities will be produced. The first lab study will be realised and will focus on user interaction and other concepts and prototypes.

The di.me Userware

The overall project goal is to provide a systematic approach to organise the user's personal sphere information in private and social digital environments – via the digital.me userware. During the 2010 period first activities related to the conceptualization and specification of the System Architecture efforts have been carried out. Goals for this first phase of work have been set on the definition of the technical artifacts and formats used to describe the component specification and the prototyping of initial top-level approaches on the overall System Architecture. Activities performed included: the definition of the component specification template and the assessment of the main attributes relevant to describe components in the System Architecture; the specification of the System's components and relevant building block; the collection of top-level approaches on System Architecture; the collection of design issues and the identification of technical issues affecting the whole architectural approach for the system.



User Driven Design and Quantitative Validation

The project approach is a userware to be used in all digital life spheres, communities, and contexts. Three scenarios have been selected to cover these different aspects and including also the transition of users and simultaneous use of different social roles and communities. User Driven Design, qualitative and quantitative evaluation with large user groups will be guided by these three scenarios: "di.me for Private Users in all Life Spheres", "di.me on Business Conferences and Smart Events", "di.me for Enterprise Customer Relationship Management".

In order to prepare the validation scenarios, in this first period the internal handling of requirement and use case collection were organised. For this purpose, a fixed structure for the description of a use case was created. The use cases were collected by all the partners and consolidated based on the described functionality.

Semantic Representation, Lifting and Processing of Personal Data

A semantic core with data mining, semantic mapping and reasoning, will support an intelligent management of personal data and communication history including recommendations how to take advantage of the personal sphere.

During the first 2010 period, some first discussions have been carried out regarding concepts to be modelled, in particular broad concepts like user contexts/situations and privacy. Moreover, the system architecture was discussed from a semantic point-of-view, to ensure that the semantic framework can be accessed and used throughout where required.

Infrastructure for Trust, Privacy, and Security

An open trust, privacy, and security infrastructure will enable the user to securely use personal data. Trust metrics will guide the user to avoid risky behaviour. Anonymous data disclosure, data withdrawal and policies will foster privacy and trust.

During this first phase of the project, a first evaluation has been carried out of candidate and potential technologies and approaches regarding dynamic and semi-automatic trust evaluation, anonymity and security on network level and multidimensional trust metrics.

Intelligent User Interfaces for a Personal Information Sphere

Intelligent user interfaces on desktop and mobile devices will promote the intuitive usage of powerful semantic and privacy-technologies and will enable the user to monitor, control, and interpret personal data.
A state-of-the-art research for and possible design patterns and existing solutions on cross-platform navigation and visualisation has been started. UI-requirements have been collected and first approaches focussed on desktop or tablet UIs. First visual design drafts have been elaborated to support the conceptualisation of the whole system. First requirements and research for technical UI-frameworks have been conducted. Finally, general approaches for intelligent user interfaces, user interaction with information modelling and context recognition have been discussed.

User Involvement, Promotion and Awareness

In the first two months of the project's life, di.me project produced several dissemination materials and carried out some first dissemination activities. The consortium published the first version of the project's website, which includes relevant information about the project, its objectives and the consortium. A graphical project leaflet has been also produced. In November, the project was presented in a debate titled "Digital Identity: how we build, use and protect our presence on the network" which was hosted by Barcelona Digital in Barcelona, Spain. Finally, a list of relevant International Conferences and journals has been produced in order to help the scientific partners in their future publication activities.

Future Work

Once collected all the relevant specifications on the components sub-systems envisioned as building blocks for the System, efforts will be put in matching this partial specifications together with the high-level approaches also provided against the use-case collection. Next major goal is to build the first complete draft of the Reference Architecture for the System together with the related technical requirements as the outcome for the Analysis Phase. Design phase will be launched afterwards to specify details for implementations of the defined architecture. In parallel, the validity of the use cases in regard of the scenarios defined within the project will be checked. The validated use cases will then serve as input to the architecture and UI design. On the semantic layer, an investigation of existing ontologies/ models that can be re-used will be performed, with a particular attention to ontologies designed for the Nepomuk project. Finally, regarding User Interfaces, the next steps will cover the decision on concepts for basic metaphors, wording, and visual design for a first system prototype. Decision on the target UI platforms and technical frameworks will be taken and based on that, a UI prototype will be developed that serves as material for lab studies as well as frame for system integration and component development of the first development iteration.