

# Personal, Social and Event Organization Through Web and Mobile Apps: The Fluxedo Case

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**Abstract.** This paper presents Fluxedo, a platform that combines social network data, web interfaces, a mobile app, and information from events and venues, for allowing people to design their experience, plan their activities and engage with friends or colleagues in common tasks. The application is built through a set of Web engineering practices that include: model-driven development, REST service design and invocation, interaction with public Web APIs (e.g., of social networks) and business process management (BPM).

## 1 Introduction

The main uses of web and mobile in the consumer market include social networking, content sharing and personal productivity. Some of these aspects sometimes converge, like in the case of social networking and personal productivity (including todo list and planning), which merge into socialization of task management, currently supported by a plethora of online services directed to the final user. However, all these tools share a common weakness: they don't provide any way for structuring the interactions, dependencies or constraints between tasks.

In this paper we discuss how the combination of model-driven development [3], social networking and business process management (BPM) can be fruitfully applied to personal and social task management in a consumer scenario. Our aim is to devise user-friendly mobile applications that hide the complexity of modeling behind extremely simple interfaces and interaction paradigms. The main challenge addressed is related to finding the appropriate level of complexity to be exposed to the user, because the expressive power should be complete enough for describing basic processes but also simple enough to let people understand, accept and use them in their everyday life, combined with social networking and content sharing capability.

We show the results of our studies at work in a commercial mobile application called Fluxedo ([www.fluxedo.com](http://www.fluxedo.com)). Fluxedo is a web and mobile app that allows users to create lists of items (i.e. activities), and assign those to other users via social networking means. Fluxedo can be seen as a to-do list app that integrates traditional features with new ones: users within a group of tasks (flow) receive notifications and can interact with the flow explicating whether they have already completed the task or not, as well as adding new tasks in the flow and change the tasks order.

## 2 Personal Organization on the Go

We identify the needs of users that want to combine personal organization, group and social activity planning, event participation and content sharing, under the name of *Personal Process Management (PPM)* [4, 5]. PPM focuses on:

- *Definition of the acceptable complexity of personal plans.*
- Definition of *social interactions, social sharing and gamification* aspects (i.e., the possibility of increasing engagement of users through mechanisms that are typical of games, such as points, badges and so on).
- Definition of monitoring and analytics dashboards for event organizers that want to have a bird’s eye view on behavior of participants.

In their personal life organization, users have rather simple needs and usually aim at describing basic collaborative activities performed together with their acquaintances. In a field study performed with real perspective users, people declared the following requirements for this kind of applications:

- Easily specify task assignment to friends.
- Describe simple sequential constraints between tasks or the possibility of performing all actions altogether.
- Avoid dealing with complex decision points, involving definition of conditional expressions, complex event management, or process structures.
- Avoid graphical modeling of processes.
- Freely chat with other members and to exchange information and content.

Based on this, we studied a few variants of PPM and we tested them with end users [1]. The resulting execution model covers an extremely reduced expressive power with respect to classical BPM approaches, namely: atomic tasks, sequential task dependency, and task assignment to concrete actors (and not to roles), possibility of chatting and exchanging content freely with the group, and of attaching information to tasks (e.g., maps, photos, or documents). Therefore, the reuse of process models (in the sense of having several executions of them) is possible but not really frequent. One can instead think about neutral blueprints of processes to be instantiated several times (e.g., the specification of a typical “party planning” scenario). From the socialization perspective, the user needs are quite basic: they need the possibility of inviting users from social networks or mailing lists, they want them to see their tasks appear in the todo list in the right moment, and they want to award them somehow for the work done, e.g., through gamification mechanism. Notice that no graphical modeling notation, decision points, cycles, parallel executions, events or any other complex element is exposed to users.

## 3 Personal Organization on the Go

We implemented our findings by designing a mobile application with a model-driven approach based on the OMG’s IFML standard [3]. Similarly, we designed the Web viewpoint of the application. Figure 1 shows some fragments of the model.

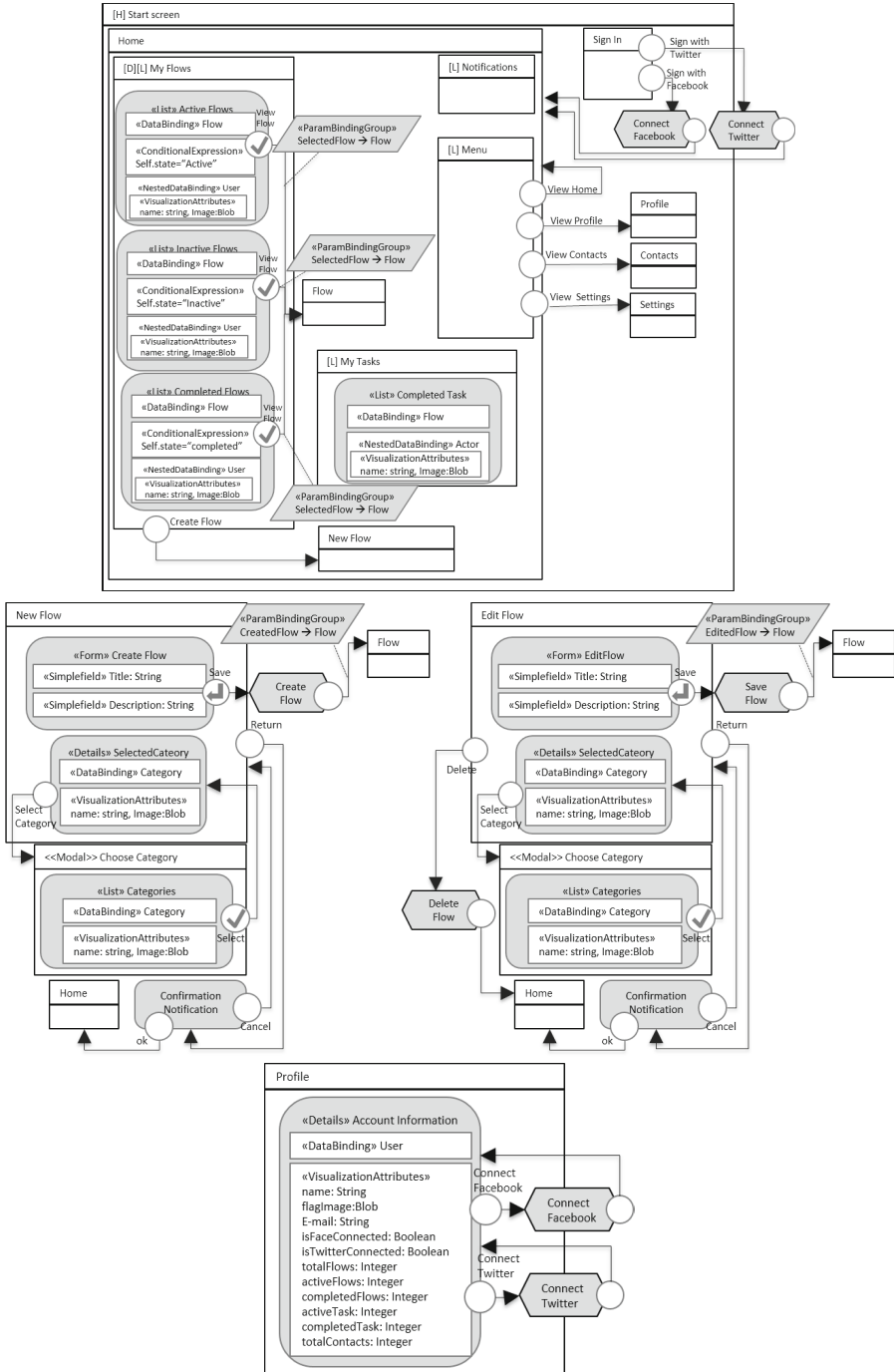


Fig. 1. IFML Model of the system (mobile ViewPoint)

The first one describes the start screen of the application, composed by two alternative sub-screens: the *home screen* containing the flows and tasks of the logged user, a menu containing three links (leading to user profile, settings and contacts) and notifications; and the *sign in screen* allowing the user to login in the application using Facebook or Twitter accounts. The second fragment describes the creation of a new project; the third fragment shows the modification of a project; and the fourth fragment describes the screen displaying the user profile, where the user can also connect his Facebook and Twitter account, so as to enable the social networking features of Fluxedo. The rest of the design is performed in a similar manner.

Fluxedo has been developed as a cross-platform mobile application based on PhoneGap ([www.phonegap.com](http://www.phonegap.com)) starting from the IFML specification, using the WebRatio Mobile Platform tool ([www.webratio.com](http://www.webratio.com)) for its main aspects, integrated with a Web application front-end for displaying a dashboard of the status of ongoing projects. Figure 2 shows two sample screens of the obtained mobile application: the first one shows a project view, with the task list, the assigned actors, and the current status of tasks. The second one shows the details of one task.

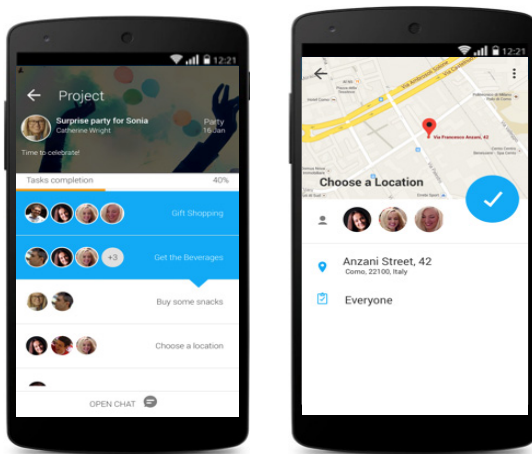


Fig. 2. Fluxedo screens for a collaborative project and a task

## References

1. Brambilla, M.: Application and simplification of BPM techniques for personal process management. In: La Rosa, M., Soffer, P. (eds.) BPM Workshops 2012. LNBP, vol. 132, pp. 227–233. Springer, Heidelberg (2013)
2. Brambilla, M., Cabot, J., Wimmer, M.: Model-Driven Software Engineering in Practice. Morgan & Claypool (2012)
3. Brambilla, M., Fraternali, P., et al.: Interaction Flow Modeling Language (IFML) 1.0. OMG Standard Spec. <http://www.ifml.org>
4. Rosemann, M.: Personal Process Management. Rosemann's blog (2011). <http://www.michaelrosemann.com/uncategorized/113/>
5. Weber, I., Paik, H.-Y., Benatallah, B., Vorwerk, C., Zheng, L., Kim, S.: Personal Process Management: Design and Execution for End-Users. UNSW-CSE-TR-1018, UNSW (2010)