Implementation of a feature-based context-oriented system

In the context of our research on context-oriented programming, we have developed a feature-based context-oriented software development approach to help software designers and programmers conceive and prototype feature-based context-oriented systems.

Throughout this semester you are asked to play the role of potential designers and programmers using a proposed approach and methodology to develop feature-based context-oriented systems. Through surveys such as this and oral interviews, we will evaluate the strengths and weaknesses of the proposed approach and methodology.

We would like to stress the fact that all work performed in the context of this scientific study will be completely anonymous, in other words we will not know the exact names of who responded what to the different surveys. Because of this we ask you to be as complete and precise as possible when responding to open questions, since we won't be able to contact you for clarifying your responses. This scientific study is part of our ongoing research and will not be taken into account for your course grade. Each question will be asked in English but feel free to respond in French or English according to the language you feel most comfortable with to provide precise answers. You are expected to respond to the current survey by group. Your group is the same as your Moodle group. Use the same unique identifier for your group as you used to complete the previous surveys. This allows us to compare the different surveys of your group and how you learned throughout the study, while still respecting your anonymity.

The current survey aims to collect your smart system implemented with our feature-based context-oriented programming language. Depending on your group, you had to implement either a smart messenger system or a smart calculator system. In this form we will ask you to submit an archive containing a report illustrating your context and feature model, as well as the mapping model between these two models and a folder containing all your source code of your smart system. After that we gather your feedback on your experience with using the proposed programming language.

This form must be filled out by 29th November 2020, at 11:55 pm.

*Obligatoire

Anonymous identifier

1. Provide us your anonymous identifier *

   As a reminder, this anonymous identifier allows us to link your responses to the different surveys, while guaranteeing your anonymity. So it is really important that you use the same anonymous identifier during the entire semester!

Implementation of your feature-based context-oriented system using the proposed programming language

2. Submit an archive named “smart_X_Y.zip” where‘X’ is either “messenger” or “calculator” and ‘Y’ is your same anonymous identifier you have used since the beginning of the semester. This archive must contain a report illustrating your context and feature model, as well as the mapping model between these two models. It must also include a folder of your extended programming language and a folder containing all your source code of your smart system. For guaranteeing anonymity please make sure that your real names are is not in the metadata of any file or directory. Your archive cannot exceed 10MB. *

Feedback on the feature-based context-oriented programming language

3. How do you assess the expressiveness of the proposed programming language in the declaration of the context and feature model? *

Une seule réponse possible.

	1	2	3	4	5	
Not expressive at all	◯	◯	◯	◯	◯	Very expressive

4. How do you assess the expressiveness of the proposed programming language in the declaration of the mapping model? *

Une seule réponse possible.

	1	2	3	4	5	
Not expressive at all	◯	◯	◯	◯	◯	Very expressive

5. How do you assess the expressiveness of the proposed programming language in the definition of the features and the classes of the system? *

Une seule réponse possible.

	1	2	3	4	5	
Not expressive at all	◯	◯	◯	◯	◯	Very expressive

6. How do you evaluate the structure of the context-oriented system created with the help of the proposed programming language? Is it readable enough for developers to know which files must be modified? *

Une seule réponse possible.

	1	2	3	4	5	
Not understandable at all	◯	◯	◯	◯	◯	Totally understandable

7. How do you assess the complexity of using this programming language to develop context-oriented systems? *

Une seule réponse possible.

	1	2	3	4	5	
Very complex	◯	◯	◯	◯	◯	Very easy

8. How do you assess the complexity of implementing a context-oriented system such as the one you created WITHOUT using such a programming language? *

Une seule réponse possible.

	1	2	3	4	5	
Very complex	◯	◯	◯	◯	◯	Very easy

9. Can you mention one or more positive aspects of this proposed programming language? *

10. Can you mention one or more less interesting aspects of this programming language? *

11. Do you have any further suggestions regarding how to improve the proposed programming language to make it easier to develop feature-based context-oriented systems?