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An UML profile to design Aspects in AspeCiS approach

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Outline

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  - **The phases of AspeCis**
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    - Phase III: from models to code
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- **A motived example**
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Introduction

The increased competition

The changes in customer demands

The communications performance

The Important business conditions

etc…

obligate Enterprises to migrate to

Introduction

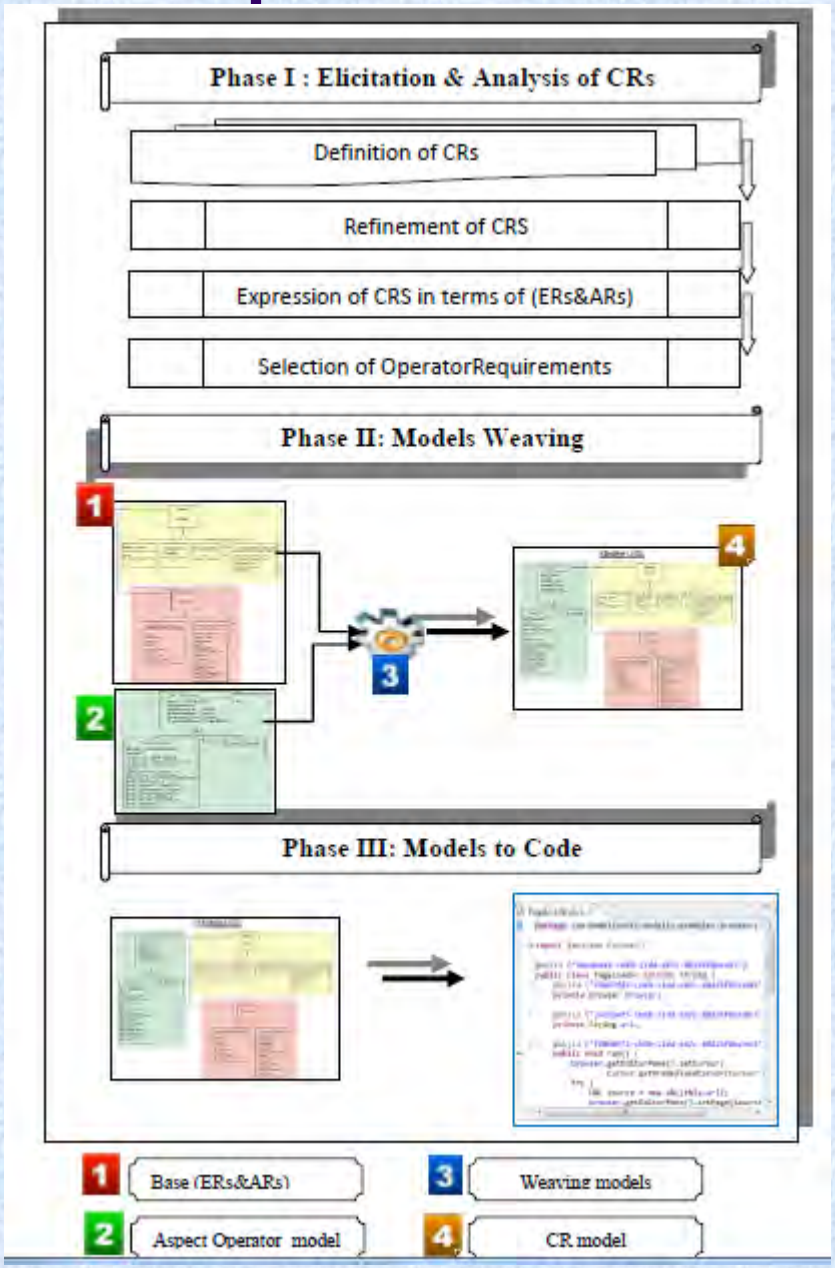
Building effective enterprise cooperation is not an easy task

It **requires** a CIS to support this inter-entreprise cooperation

our research aims at developing a new approach called AspeCiS, that ensures the effectiveness and efficiency of business cooperation

AspeCiS develops a CIS from existing ISs by using their artifacts such as requirements, and design based on the **ASPECT** concept

An Overview of AspeCiS:



Synopsis of AspeCiS approach

An Overview of AspeCiS

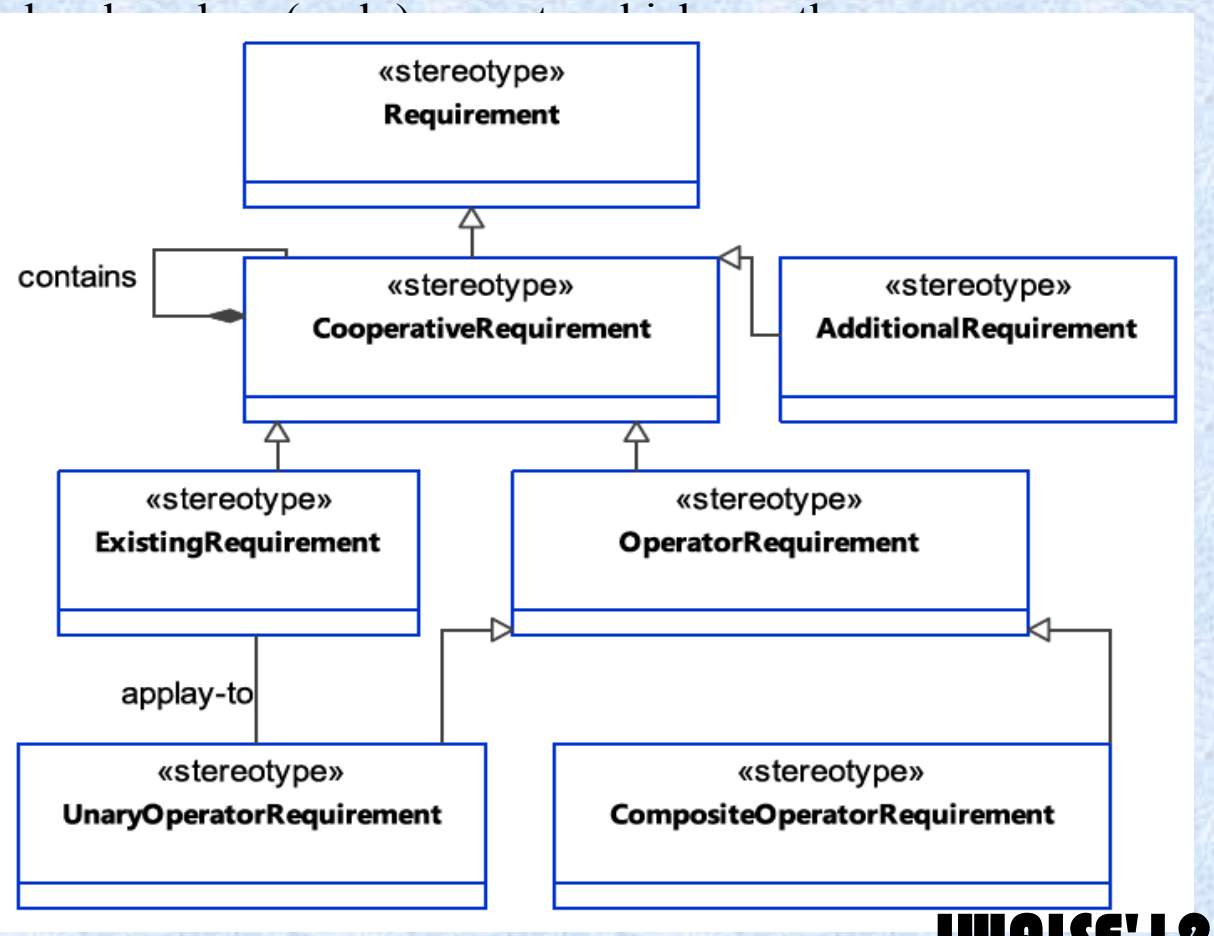
In AspeCiS : When a new requirement cannot be achieved directly by the existing systems, there should be a possibility to combine and compose the requirements of set of existing systems in order to fulfill the requirement.

The main objectives of AspeCiS are:

(i) to separate (not mixed) in the resulting system, the pre-existing functionalities from the new ones;

The main feature of AspeCis is to analyze the new requirements of the system being
woven on existing
accessible parts)

(ii) to provide a high
weave (build) again
systems



The Phases of AspeCiS

Phase I: The Elicitation and Analysis of Cooperative Requirements

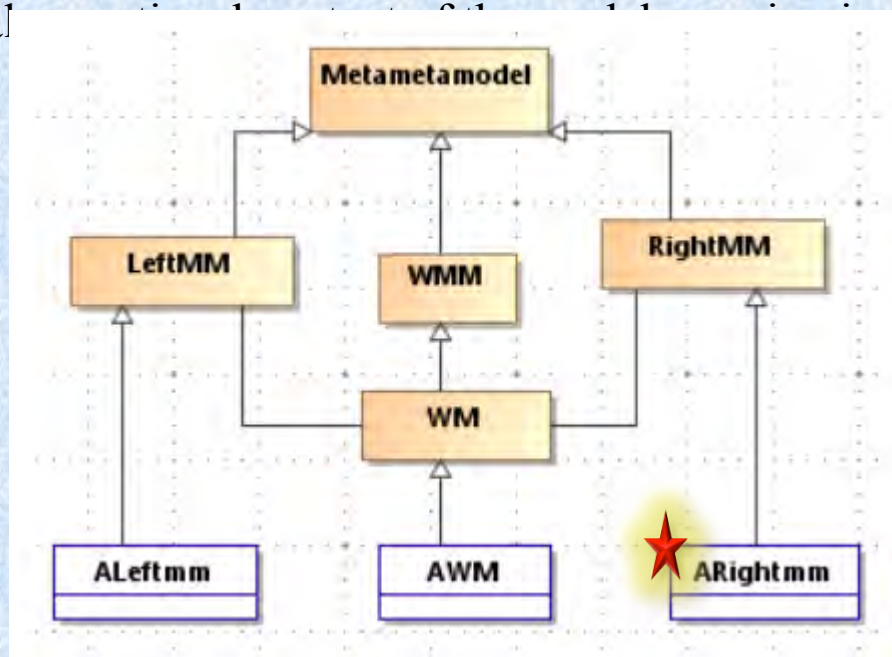
- **Refinement of Cooperative Requirements:** decompose CRs into a set of *basic requirements.*
- **Expression of CRs in terms of ERs/ARs:** determine the ERs and ARs involved in the definition of every CR
- **Selection of the OperatorRequirements:** A modification of an ER = the ***weaving*** of a new behavior on this ER. This change is provided by the UnaryOperatorRequirement

The Phases of AspeCiS

Phase II: Weaving Models

The second phase of AspeCiS basically entails the modelling of base (ERs or ARs models,aspectual entities (OperatorRequirement models) and the definition of a process for weaving them in order to define CRs models.

The general [illegible] depicted in



An UML Profile of Aspects in AspeCiS

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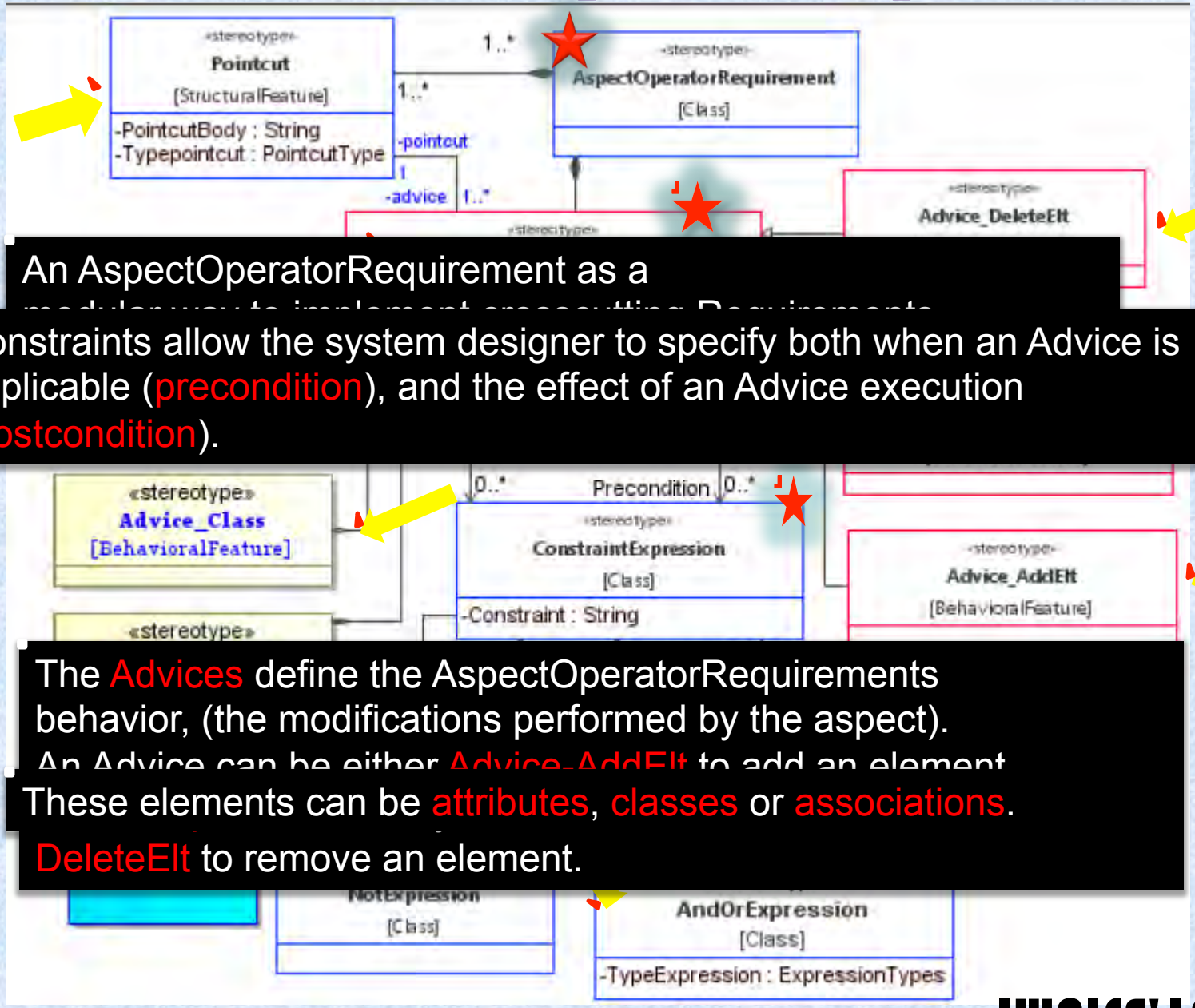
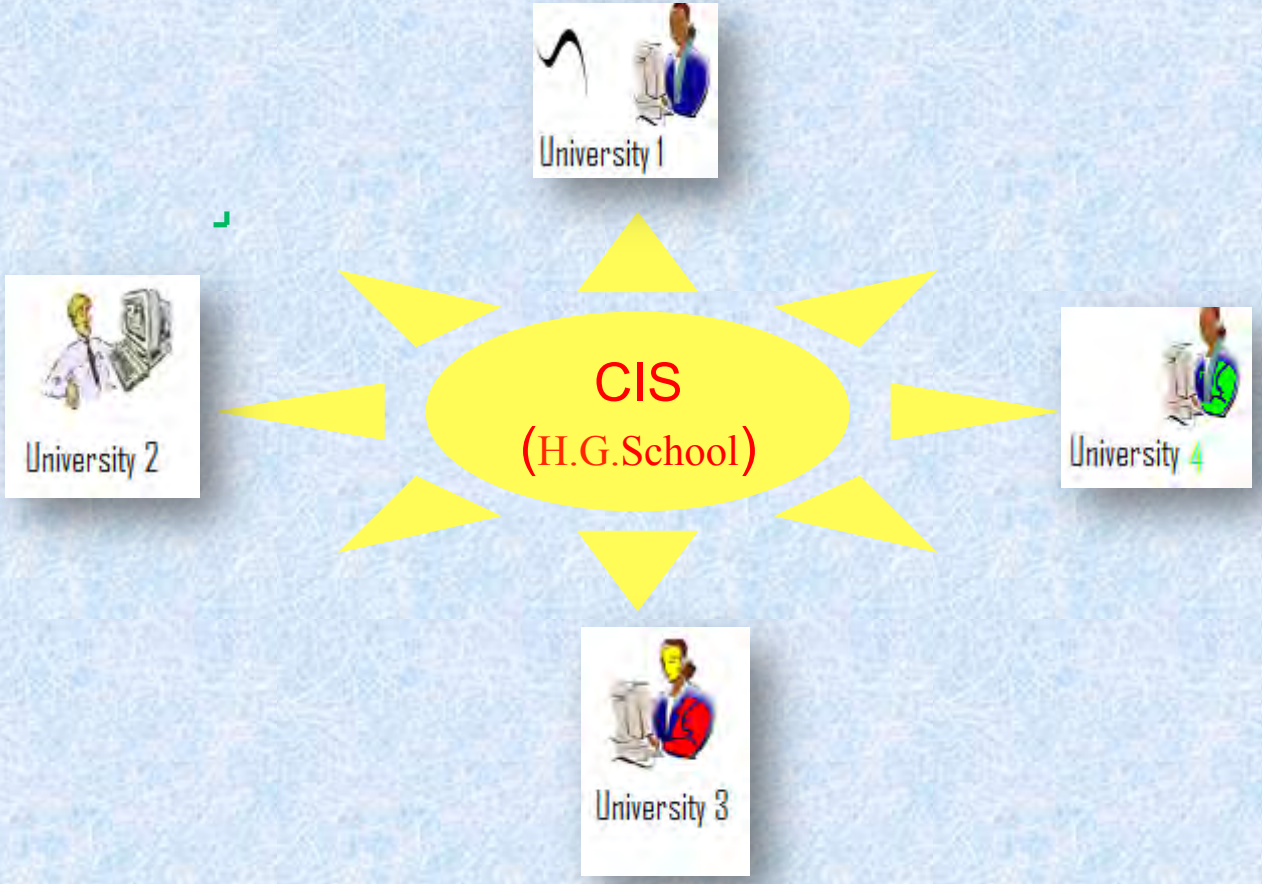


A motivated example

This example illustrates a part of the University Students Management System for the High Graduate School



A motivated example

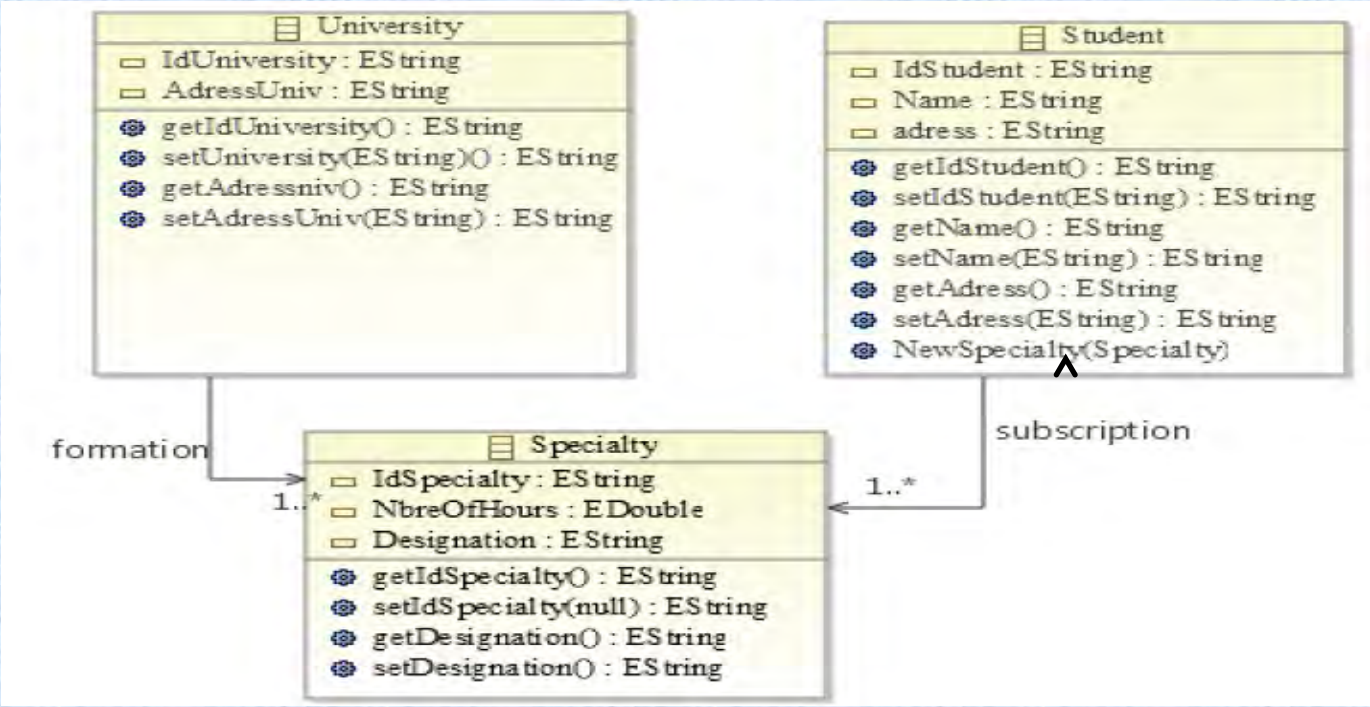
At the requirements level of the existing ISs, the student subscription requirement is defined as:

- ER1= Every student may have a second subscription in the same university.

- CR1= Every student can have a second subscription in the same university
- provided that the number of hours of the second specialty does not exceed 50% of the number of hours of the first one.

A motivated example

At the model level of the existing ISs, the student subscription requirement is defined as:



«AspectOperatorRequirement» VerifySecondspeciality
«Pointcut»+Pointcut1{PointcutBody = "Student.Newspeciality()", Typepointcut = Class, advice = NbreOfHours}
«Advice_AddElt»+NbreOfHours(){pointcut = Pointcut1}

Conclusion

❑ Conclusion

- We have proposed an approach named AspeCiS to develop a CIS from existing ISs by using their artifacts such as requirements, and design.

- We presented in this paper a profile for AspeCiS. It allowed the designer to give response to the following question ”How to design Aspects in AspeCiS”?.

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Thank you !