Universidad Autónoma de Madrid
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Enriching Requirements Analysis with the Personas Technique

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INTERNATIONAL WORKSHOP ON THE INTERPLAY BETWEEN USABILITY EVALUATION AND SOFTWARE DEVELOPMENT
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- Personas Technique
- Personas Technique Criticisms
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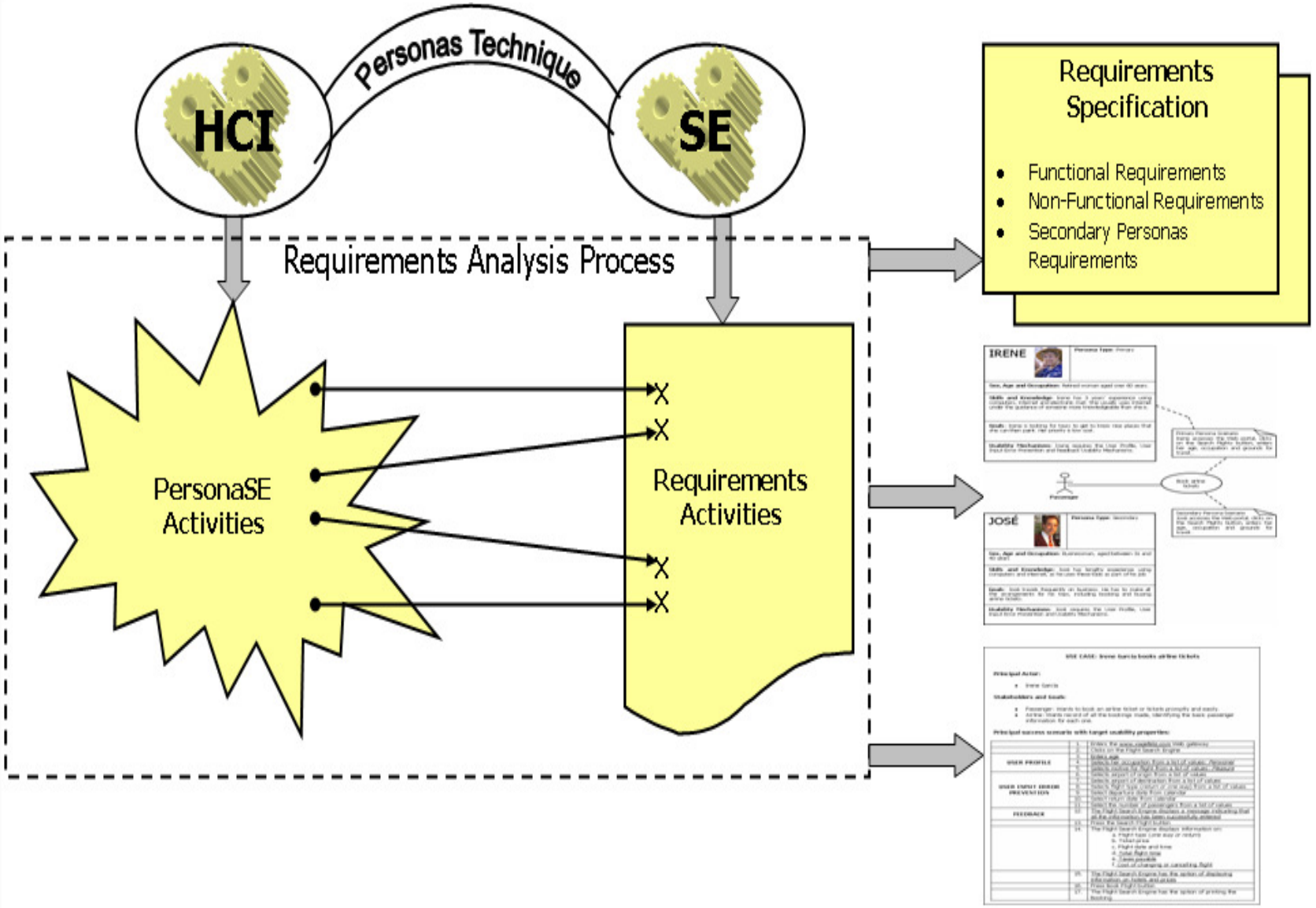
Introduction



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Personas Technique

- The Personas technique, attributed to Alan Cooper (1999), is useful for understanding system users in terms of their characteristics, needs and goals to be able to design and implement a usable system.

- Authors like Goodwin (2002) and Cooper & Reimann (2003) suggested that personas should be mainly based on qualitative data gathered through interviewing and ethnographic observations.

- The data collected from the observations and interviews are mapped to behaviour variables.

Personas Technique

- A set of interviewed subjects classed according to a group of behavioural variables form a behavioural model making up a persona.
- A persona is a fictitious archetypal user that represents a specific group of typical users.
- After the personas have been created, they need to be documented and shared with team members. Cooper & Reimann (2003) mention two basic deliverables for each created persona: a list of key characteristics and a third-person narrative about the persona.

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Personas Technique Criticisms

CRITERION / CHARACTERISTIC / STEPS OF THE PERSONAS TECHNIQUE	PROCEDURE DEFINITION		PRODUCT FORMALIZATION	
	What?	How?	Product Content	Product Structure
Step 1: Identify Behavioural Variables	Semi-explicit	Semi-defined	Semi-defined	Semi-formal
Step 2: Map interview subjects to behavioural variables	Explicit	Undefined	Semi-defined	Informal
Step 3: Identify significant behaviour patterns	Semi-explicit	Semi-defined	Undefined	Informal
Step 4: Synthesize characteristics and relevant goals	Explicit	Semi-defined	Semi-defined	Informal
Step 5: Check for redundancy and completeness	Explicit	Semi-defined	N/A	N/A
Step 6: Expand the description of attributes and behaviours	Explicit	Defined	Defined	Semi-formal
Step 7: Designate persona types	Explicit	Defined	Semi-defined	Informal

Personas Technique Criticisms

- The aim behind the Personas technique is to understand future system users. However, none of the steps in this technique includes the usability mechanisms (feedback, undo/cancel, etc.) connected with each created persona.

- To consider usability in the early stages of the software development process, we considered adding new activities:
  - Relate behaviour patterns to usability mechanisms
  - Build use cases with usability mechanisms
  - Build mock-ups with usability mechanisms

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PersonaSE Technique

- PersonaSE is a technique consisting of 11 activities with their associated subactivities that, together, lead to the successful creation of personas. It eases the incorporation of usability mechanisms.

- The execution of each of the activities in the PersonaSE technique outputs a set of products that have an impact on the Software Requirements Specification and Use Cases.

PersonaSE Technique

ACTIVITIES		PRODUCTS
ACTIVITY 1: STATE HYPOTHESES	Activity 1.1: Identify possible personas	• List of Hypotheses for Personas
	Activity 1.2: Hold ethnographic interviews	• Transcribed Interviews
ACTIVITY 2: IDENTIFY BEHAVIOURAL VARIABLES	Activity 2.1: Synthesize Interview Responses	• List of Behavioural Variables
	Activity 2.2: List Behavioural Variables	• Interview Synthesis
ACTIVITY 3: MAP INTERVIEW SUBJECTS TO BEHAVIOURAL VARIABLES	Activity 3.1: Identify the Ranges of Behavioural Variables	• Ranges of Behavioural Variables
	Activity 3.2: Map Interview Subjects	• Mapping of Interview Subjects
ACTIVITY 4: IDENTIFY SIGNIFICANT BEHAVIOUR PATTERNS		• Significant Behaviour Patterns • Group Percentage Table
ACTIVITY 5: SYNTHESIZE CHARACTERISTICS AND RELEVANT GOALS		• Personas Grounding Document

PersonaSE Technique

ACTIVITIES		PRODUCTS
ACTIVITY 6: CHECK FOR REDUNDANCY AND COMPLETENESS		• Validation Document
ACTIVITY 7: EXPAND THE DESCRIPTION OF ATTRIBUTES AND BEHAVIOURS		• Narrative
ACTIVITY 8: RELATE BEHAVIOUR PATTERNS TO USABILITY MECHANISMS		• Pattern – Usability Mechanism Relationship Document
ACTIVITY 9: DESIGNATE PERSONA TYPES	Activity 9.1: Select Representative Personas to Elicit Requirements	• Persona Type Association.
	Activity 9.2: Enrich the System with Secondary Personas	(Software Requirements Specification is enriched)
ACTIVITY 10: BUILD USE CASES		• Use Cases (with usability mechanisms)
ACTIVITY 11: BUILD MOCK-UPS	Activity 11.1: Implement Mock-ups	• Mock-ups
	Activity 11.2: Evaluate Mock-ups	• Mock-up Evaluation Document

PersonaSE Technique

PRIMARY PERSONA: IRENE THE COMPARER BUYER

Irene (62) used to work as a secretary at the Universidad Autónoma de Madrid. Pedro, her husband for 30 years, retired from a small family business. They had always wanted to travel after retiring and saved up patiently so that they would be able to do so. The first year after they retired, they went on a tour of the Italian countryside. This left them wanting more. This year they want to return to Italy (but on their own this time). The last trip cost too much, and they want to keep their expenses under check.

Their son has been telling them about the cheap fares they can find over the Internet if they look hard enough. Irene has spent a lot of time browsing travel sites, looking for tickets to Rome and hotels at which to stay once they get there. They want to visit some vineyards and to spend a day at the Vatican.

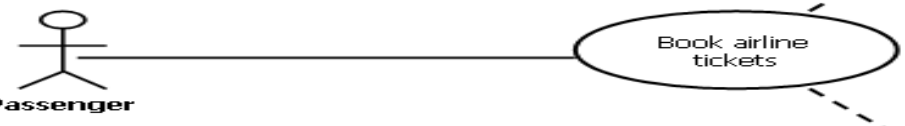
Irene is an amateur painter and is interested in visiting art-related sites. She also loves Italian food, but not all the time. She likes to stay at tourist resorts where she can easily get American food when she wants to.

She is browsing the travel sites in search of cheap fares. She is not fussy about the dates. At the same time as she is looking airline tickets, she is also searching for hotels. To plan her itinerary, she is looking for travel information about several cities that they are intending to visit. She doesn't mind if it takes time to find what she is looking for, but she gets very frustrated when the system does not return all the information she wants. For example, she likes to know exactly how long the flight will take, how much she will have to pay in taxes, and how much she will have to pay to change or cancel a ticket. She does not like having to click on lots of different links to get each piece of information.

PersonaSE Technique

IRENE		**Persona Type**: Primary
Sex, Age and Occupation: Retired woman aged over 60 years.		
Skills and Knowledge: Irene has 3 years' experience using computers, internet and electronic mail. She usually uses internet under the guidance of someone more knowledgeable than she is.		
Goals: Irene is looking for tours to get to know nice places that she can then paint. Her priority is low cost.		
Usability Mechanisms: Irene requires the User Profile, User Input Error Prevention and Feedback Usability Mechanisms.		

Primary Persona Scenario
Irene accesses the Web portal, clicks on the Search Flights button, enters her age, occupation and grounds for travel...



Secondary Persona Scenario
José accesses the Web portal, clicks on the Search Flights button, enters her age, occupation and grounds for travel...

JOSÉ		**Persona Type**: Secondary
Sex, Age and Occupation: Businessman, aged between 31 and 40 years		
Skills and Knowledge: José has lengthy experience using computers and internet, as he uses these tools as part of his job		
Goals: José travels frequently on business. He has to make all the arrangements for his trips, including booking and buying airline tickets.		
Usability Mechanisms: José requires the User Profile, User Input Error Prevention and Usability Mechanisms.		

PersonaSE Technique

USE CASE: Irene García books airline tickets

Principal Actor:

- Irene García

Stakeholders and Goals:

- Passenger: Wants to book an airline ticket or tickets promptly and easily.
- Airline: Wants record of all the bookings made, identifying the basic passenger information for each one.

Principal success scenario with target usability properties:

	1.	Enters the www.viajefeliz.com Web gateway
	2.	Clicks on the Flight Search Engine
USER PROFILE	3.	Enters age
	4.	Selects her occupation from a list of values: *Pensioner*
	5.	Selects motive for flight from a list of values: *Pleasure*
USER INPUT ERROR PREVENTION	6.	Selects airport of origin from a list of values
	7.	Selects airport of destination from a list of values
	8.	Selects flight type (*return or one way*) from a list of values
	9.	Select departure date from calendar
	10.	Select return date from calendar
	11.	Select the number of passengers from a list of values
FEEDBACK	12.	The Flight Search Engine displays a message indicating that all the information has been successfully entered
	13.	Press the Search Flight button
	14.	The Flight Search Engine displays information on: a. Flight type (*one way or return*) b. Ticket price c. Flight date and time d. Total flight time e. Taxes payable f. Cost of changing or cancelling flight
	15.	The Flight Search Engine has the option of displaying information on hotels and prices
	16.	Press Book Flight button
	17.	The Flight Search Engine has the option of printing the Booking

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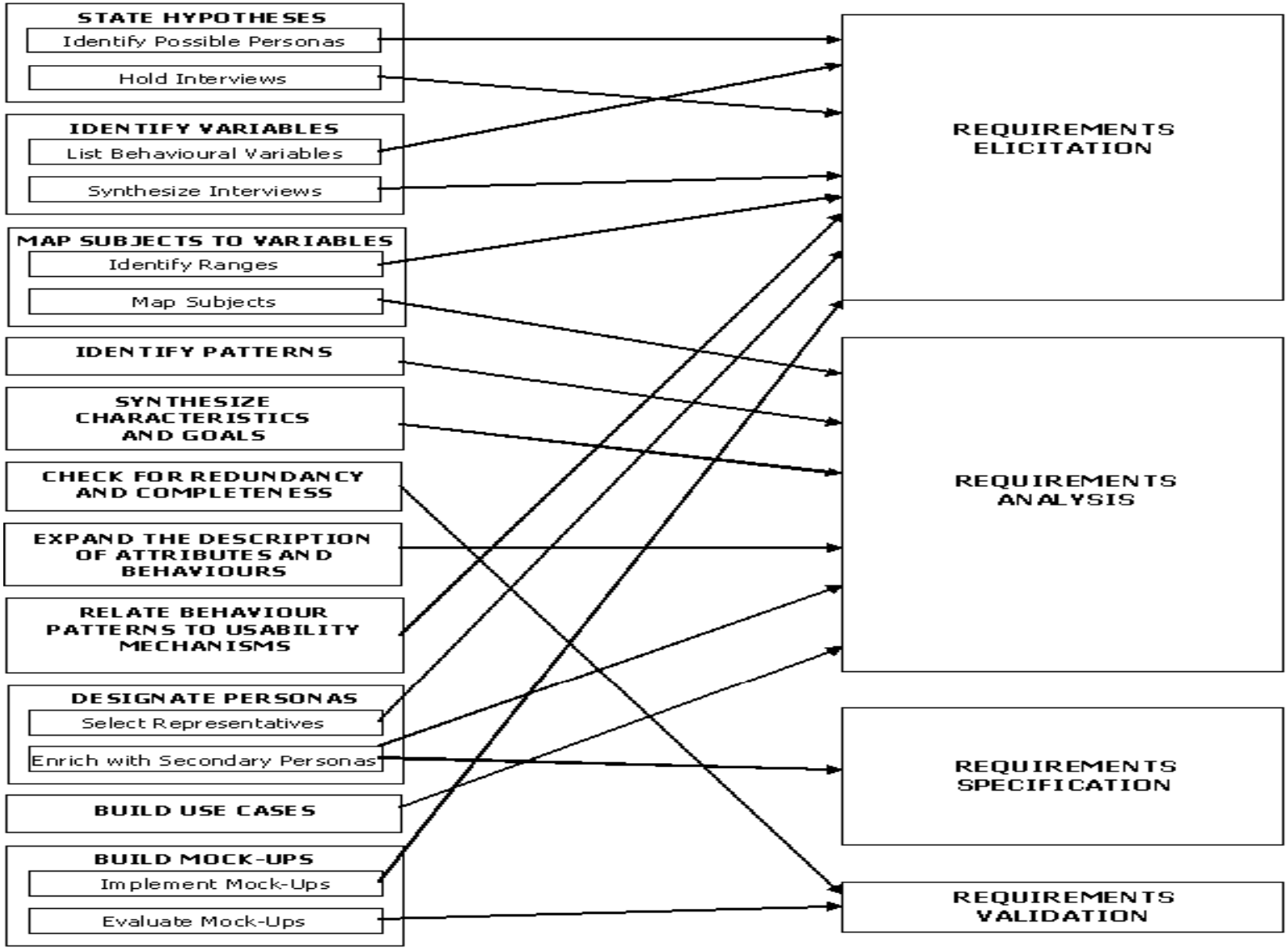

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Conclusion

- We have extended the Personas technique to add the levels of systematization characteristic of SE. Also we have added the PersonaSE activities to the four basic requirements activities to enrich the requirements analysis process.

- The activities that gained most were: the elicitation and analysis of requirements related to user knowledge and user modelling, respectively.

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