Interaction Design

**Research of Design
and
Some Useful Instruments**

revised version of Marco Loregian's talk

A Strange Zoo

- Do you eventually bring your nephews, your cousins, your children in a zoo in which the staff doesn't know nothing about animals?

- The designer must know everything of the object that must design

Design Research

Design Research: scientific and sociological investigation, with various research methods, of the potential of a product, of a service, of the users and of the context of use

Many designers don't make it, instead it is fundamental for entering in empathy with the users

Moreover, for the interaction designers it is also fundamental knowing the world around them, i.e. the innovations, the trends, …

Doing design research

Going :: Talking :: Taking note

Just as the anthropologists do

Going :: Talking :: Taking note

Do not force people in unnatural situations
(e.g. no focus group in this phase)

Do not rest on researches made by other people

Do not rely on registrations

Ethical Research

Informed Consensus
Explaining risks and benefits
Respecting privacy
Rewarding
Providing data and results

Planning the Research: Costs and Timing

Time needed for:

recruiting, execution, analyses, refinement, publication of the results, ...

Some aspect to be considered: Material of use (paper, ...), material of the test (video, prototype), material for the test (video camera, recording device), ...

It must unmask the myth that the research of design is always long and expensive

Qualitative Research Methods

Observations
Fly on the wall
Shadowing and contextual inquiry
Undercover agent

Interviews
Directed storytelling
Unfocus group
Role playing
Extreme-user interviews
Tour of the desk/handbag/…

Activities
Collaging
Modeling
Draw your experience
Self-Reporting (diary, video, photo)

…and then?

- Analysis of the collected data, brainstorming… and then?

Using the Data of the Research

- After the research design it must make a correct use of the collected information

- Practically, it must analyze the data in order to obtain various "results" (similar to the requirements but different):

  - To abstract from and generalize to obtain the key aspects

  - To build maps and conceptual models (relations, formation of groups)

Persona-based design

A Conceptual Model

Persona:
Documented archetype of a set of people

Arise from the user profile

Coherence of intents, objectives and behaviors; not only demographic (otherwise I only obtain market segment)

The users become human being well recognizable

Characteristics of a *persona*:

Name, photo, archetypical name (better if specifically created; e.g.. "the empathetic tourist)

Geographic Profile

(continent, nation, urban area, climate)

Demographic Profile

(age, sex, family, salary, education, religion/race/ethnic group)

Psychographic profile

(social class, social group and status, personality, believe, aptitude, inclination towards innovation and change, life style, interests and hobbies, relationships with media)

Webographic Profile

(habit with respect to the Web)

… It is possible to include sentences particularly explicative (either deriving from the research or invented)

Who represents?

Who represents?

Which *person* uses this object?

Which *person* uses this object?

Scenario-based design

Another tool of the designer

Introduction

- **Requirements**: statements on situations, needs of the user, opportunities offered by the system, ...

- Analysis of the requirements:

    Traditional models of the software engineering: cycle of requests/offers between designers and clients

    Approaches based on decomposition and control

    Participatory design: combined work of users and designers, exchanges of point of view

    The requirements arise during the activities and each activity evokes different views on the problem; different kind of requirements are stimulated

Use cases

- Specifications of the possible abstract use cases, possible sequences of events (instances)

- Designed in UML as a diagram

- They don't express the utility and the usability of the system

- They are not structured at a cognitive level (i.e. they don't express the goals, the expectations, the reactions of the user)

- They don't belong to the context of the design process; in fact, they express the functionalities and not the features
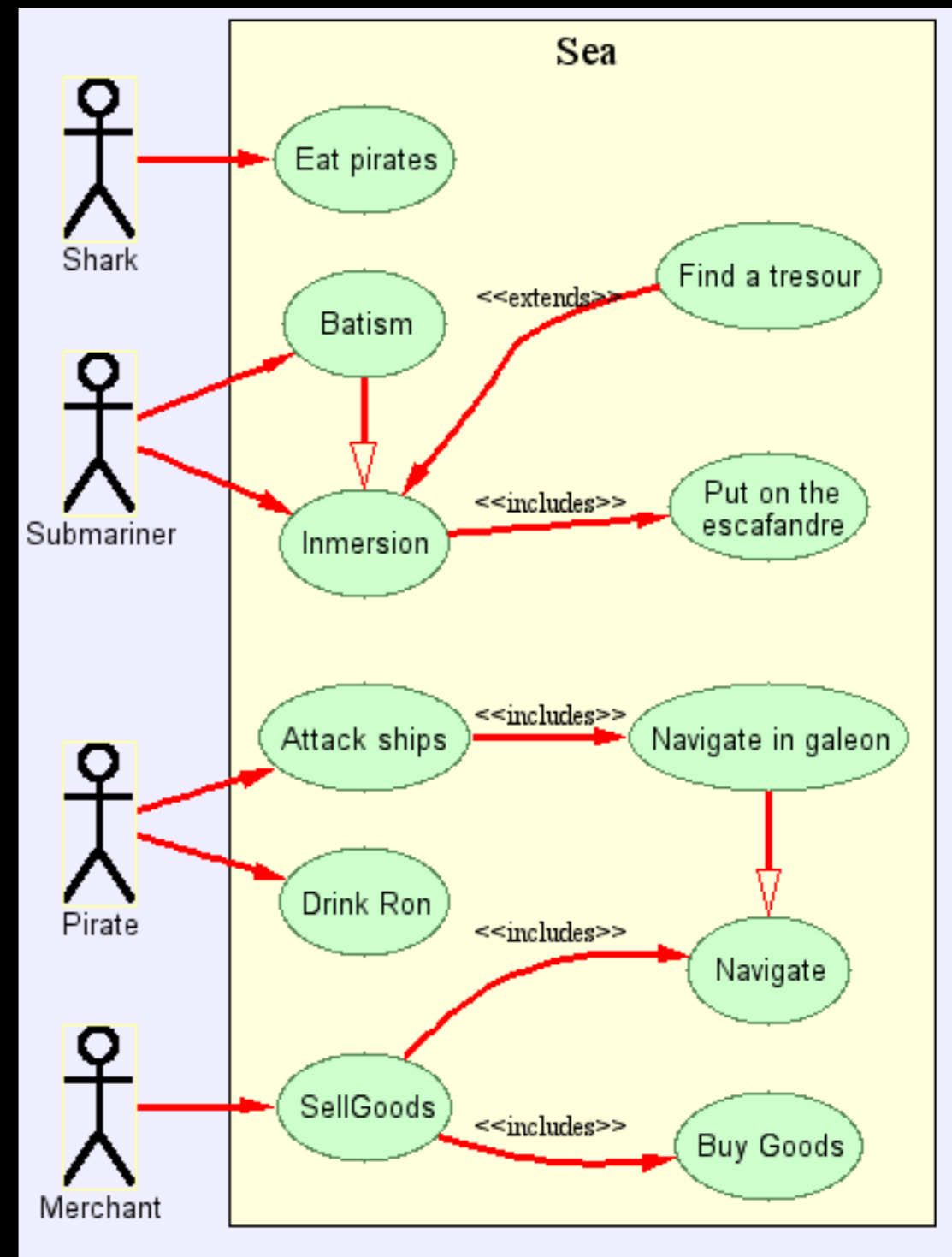
Scenarios are Stories

- **Scenario: Description or narrative of a use episode**

  - Described from the user point of view

  - Describing what users do; a currently occurring use, or a potential use that is being designed

  - By using a narrative, scenarios better capture user's behaviors and goals as well as the context in which the user is operating. The context might include details about the work place or social situation, and information about resource constraints.

  - The context helps to understand why users do what they do. In much current design work the users goals and context are often assumed implicitly, or may not be taken into account

Characteristic Elements of a Scenario

- **Environment**

- **Agents and actors with their respective** (sub)**goals** and **objectives**

Persona

- Plot: **actions and events with possible changes of the goals**

Scenario-Based Design

- Scenarios are not really new in the design activity

  - It's extremely common in design to imagine "*what if*" situations, or to walk through a design in ones mind or in a group

  - Scenario-based design is an effort to make some of what we do already more conscious and explicit

- The scenario allows a better understanding; it becomes the shared design artifact and may be augmented and rearranged as the design evolves

  - It is desirable to maintain a history of past scenarios for capturing past design rationale
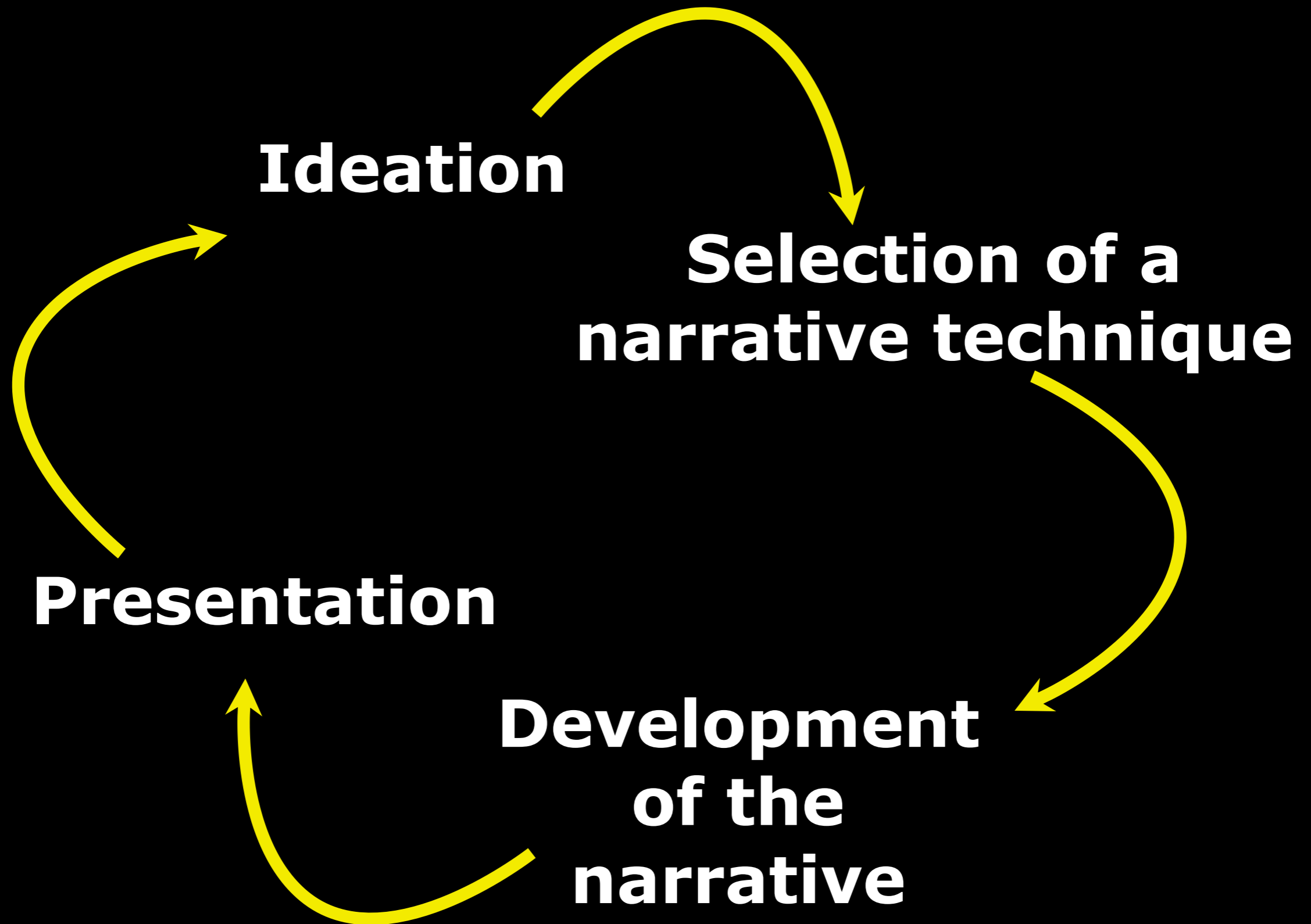
Design & Reflection

- The designers must continuously reflect both on the product and on their role in the process
- The scenarios help to confront with people having different roles, experiences, and perceptions
- Each proposal is the outcome of a partial view of the problem
  - The collaborative creation of scenarios helps to concretely conciliate different visions
  - The discussion of scenarios helps to create awareness of the process
- The scenarios help to overcome the barriers imposed by the development of technological prototypes

Prototyping Scenarios

Ideation

Selection of a narrative technique

Development of the narrative

Presentation

Narrative Technique

- Text
- Storyboard, cartoon
- Video
- Performance

Synthesis

- The fundamental problem is to encourage, support and direct in a productive manner the reflection contained in the design process

- The designers reflect even if they know that it is impossible to consider all aspects (effects, dependencies, …)

- The scenarios allow to progress toward a solution; the scenarios allow to discard various options

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http://mobilepayment.typepad.com