



MeRE workshop @ RE'2008

MEGORE: Multimedia Enhanced Goal-Oriented Requirement Elicitation Experience

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Chinese Culture related issues

- Perceptual thinking
 - “Chinese like women’s language and are ashamed of abstract words, whose pattern of thinking is both comprehensive and specific. The Chinese rely heavily on intuition to discover the mystery of nature.”—Yutang lin
 - It is better to see once than to hear a hundred times.
 - Seeing is believing.
- Face perception
- Collectivism



Influence of Perceptual Thinking

■ Feedback from Engineering Cases

- A web site engineer said: " In the requirement elicitation process, we had to collect the regulation in the guide section online, then **made a prototype immediately** and drew workflow diagrams..... Prototype is better than focus group meeting."

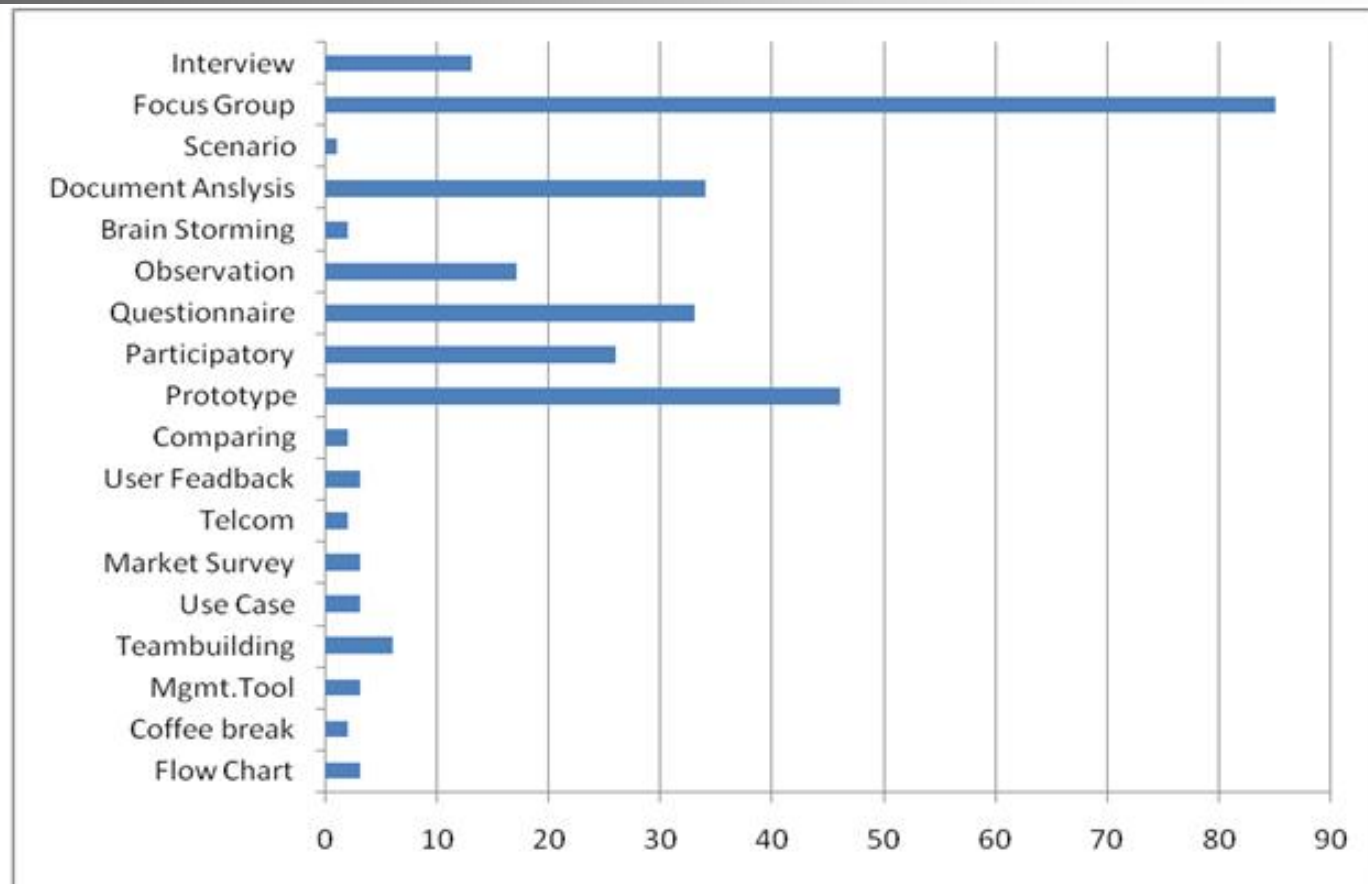


- "In my recent projects, we **always used prototype** to complete the requirements. After analysis when we got a new project, we **make a new model as quickly as possible**, then modified it with customers' feedbacks. "





Popular RE techniques



Ranking of requirements elicitation techniques[project report 2008 siemens]



Our Proposal

Use media to enhance the requirements elicitation process



The core of the method

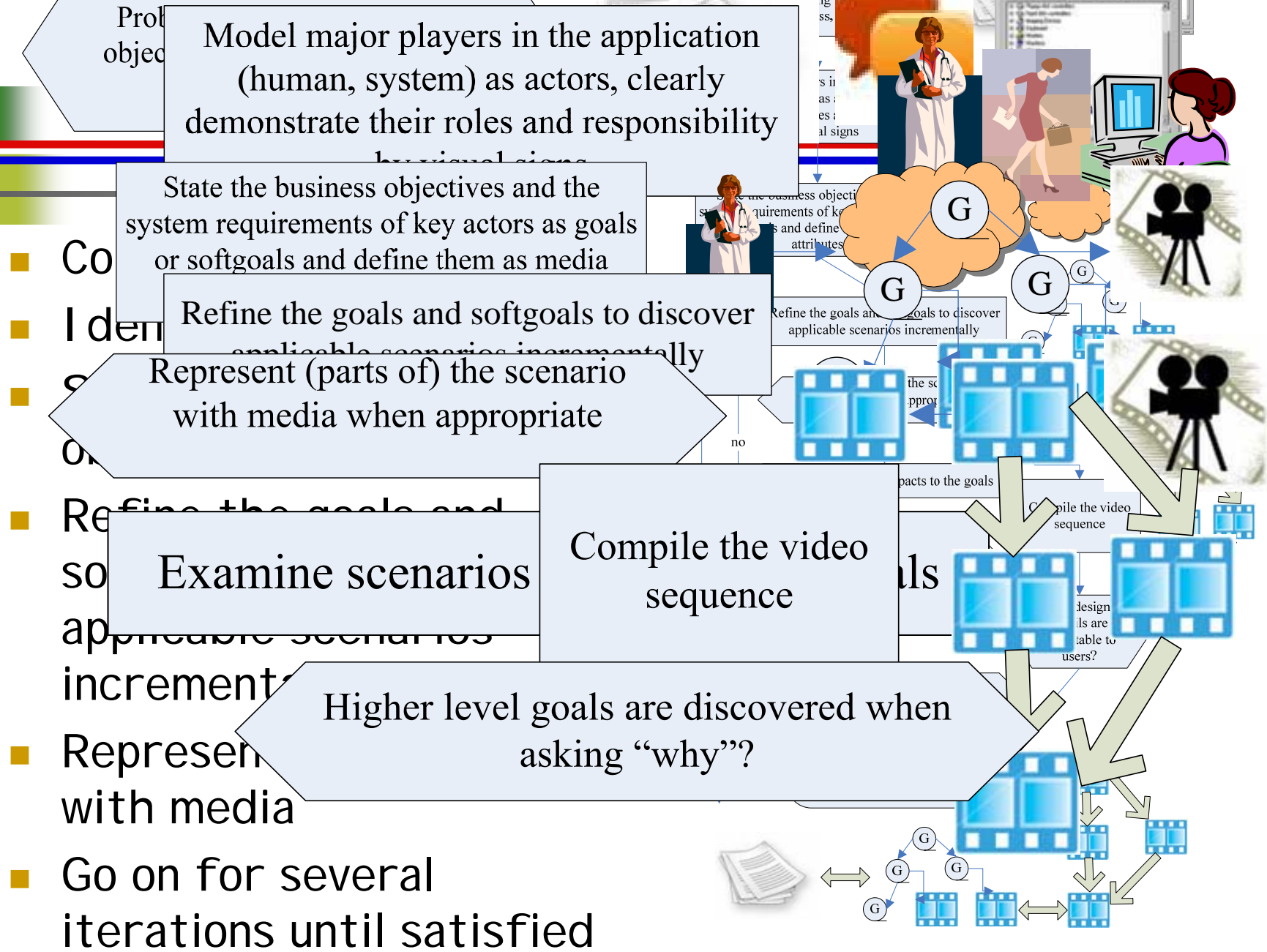
The three tuple $\langle M, G, R \rangle$

- **M** represents a synchronized presentation of media types used for software requirement elicitation, such as graphic, image, audio, video, and animation content.
- **G** is the goal of the media scenario aims to be achieved.
- **R** represents the requirement specification of the goal and media.



Use 5W2H to identify media enhance-able objects

- **Who** captures the major players of the required scenarios and their roles, responsibilities.
- **Why** captures the goals.
- **What** The concrete operations and actions can be presented by videos, cartoons vividly.
- **When** the time of activities.
- **Where** The scene of the actions
- **How & how well** capture the concrete design alternative and its influence to nonfunctional requirements.





MEGORE

- Goals

- Basis of MEGORE
- Beginning of the MEGORE process
- Criterion of whether media fulfill the requirement.

- Others

- Whether videos or images are chosen largely depends on the temporal order.



Practice and lessons

- The proposed method is applied in the design of **Electronic Marine Chart Navigation System**.
- **Take the process of design the interfaces for example**
 - The soft goal is user friendliness.
 - Collect the raw materials including the pencil drawn user interface diagram, similar system interface and some documents
 - Model the user: navigators and operators
 - Refine the soft goal
 - Design the user interface in images and discuss with stakeholders
 - Modify the images according to comments
 - Go on for several iterations until the goal is achieved.



Collect the raw

The screenshot shows a Google Earth interface with a navigation application overlaid. The application includes a search bar, a 'Places' panel, and a 'Layers' panel. The main map area displays a navigation chart with several green boxes indicating specific areas: 'Chart Display Area 1024*1024', 'Operation Area 256*1024', and 'DI Area 256*370'. A table titled 'ARPA Targets' is also visible, listing various parameters for tracked vessels. On the right side, there is a 'Dynamic Information' panel showing real-time data such as heading, speed, and position. Below this is a 'Main Menu >> Second Menu' with buttons for System, Chart, Route, Voyage, Alarm, and Logbook.

Item	A1	A2
Batch Number		
Distance		
Azimuth		
Course		
Speed		
Type		
Attributes		
Time Stamp		
Jump To		

Dynamic Information

11/23/2006 2:39:58 PM
W 32°11.111'
N 32°11.111'
HDG 120.1° STW 18.0kn
COG 122.2° SOG 17.8kn
Dep 123.1m
1:50000(S57) M 1:25000

Chart Display Area 1024*1024

Operation Area 256*1024

DI Area 256*370

Main Menu >> Second Menu

- System
- Chart
- Route
- Voyage
- Alarm
- Logbook



Practice and lessons

- Return of Investment
 - Reuse the multimedia
 - Prepare the multimedia repository
- Feedback is important
 - More comments are useful to get the requirements.
 - Media can be easy to be commented.



THANK YOU