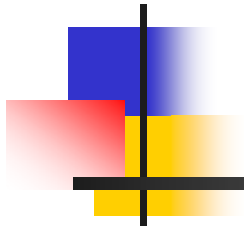


Situation, Agency and FML

In the light of lessons from BML

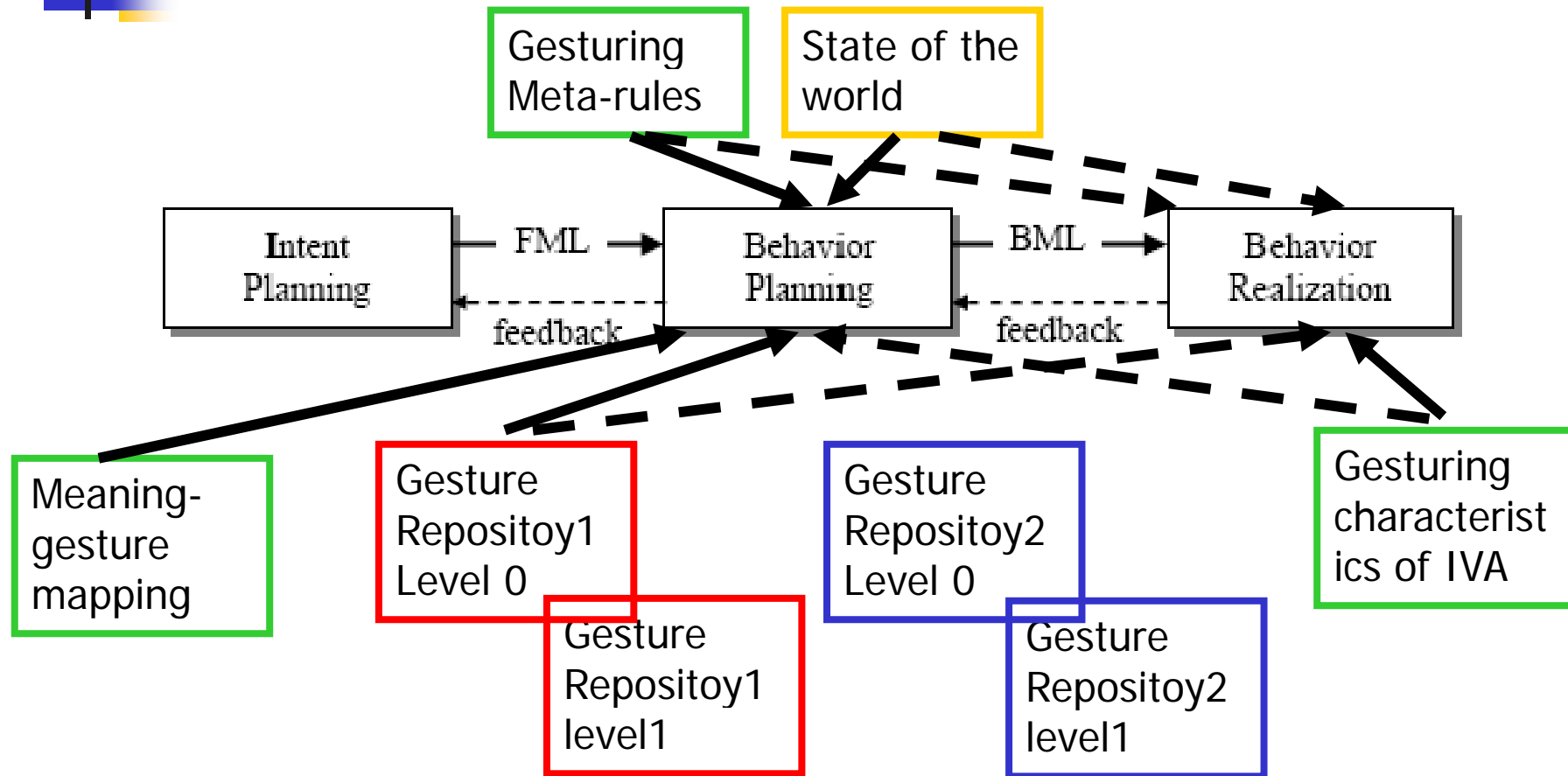


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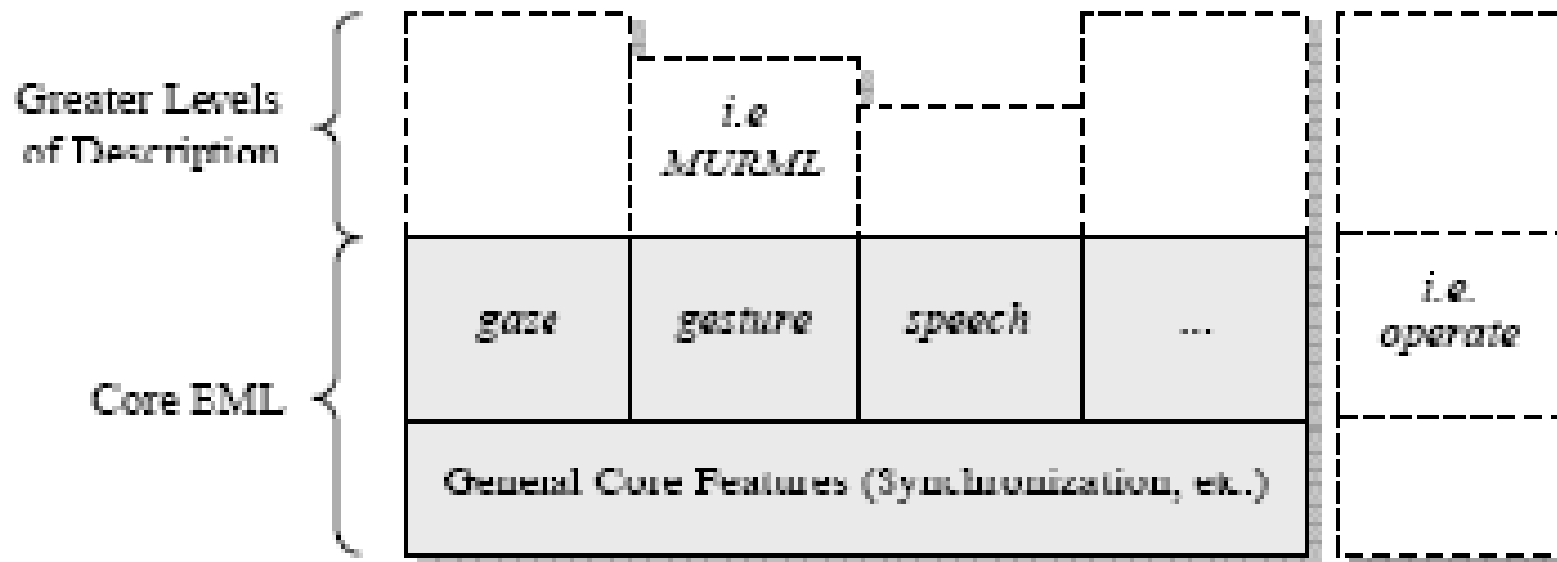
w1

FML Workshop
AAMAS08, Estoril
13 May 2008

Looking back: SAIBA and BML



Looking back: BML progress I



- Core: scope of semantics + detail of performance



Looking back: BML progress II

- Feedback on performance – to FML and beyond?
 - conditions not valid: partner moved (away)
 - response: greeting returned (or not)
 - change is state of the world (other fell)
 - change in own state (I fell, got injured)
- Identity of the agent(s)
 - how to look at X?
 - personality/style/culture
 - Relationship
- The situation
 - location, distance, visibility
 - noise
 - time constraint (greet while moving)



Restaurant example

Professor **H** has entered his favourite restaurant. He is checking if his **friend F** is already there, but cannot see him, so takes a seat.

He has noticed though that **one of the guests, G1** is a **colleague** he needs to talk to. G1 is sitting with his back to H, engaged in deep conversation with the other **person G2** at his table. H decides to wait for the right moment to approach G1.

Meanwhile some new people G3 and G4 arrive. **G3 is an ex-colleague** whom H does not like, G4 is a student he knows by the face.

The **waiter W**, a good acquaintance of H, shows up to take his order.

Intentions of (not to) greet

checking if F is there

- Gaze around
- Stand up to check *remote corner*, as the *place is busy*
- Sit back to suit new intention: watch people entering

G1 is there H needs to talk to.

- New intention triggered by world state gathered by perception and (old) desire

G1 cannot notice H, is conversing with G2.

H waits for the right moment, and then greets G1.

- Physical and mental state of G1 influences G1's plan

- Monitoring for a 'right moment'

G3 (not liked) enters,

- Greet by: shouting, OR by getting up OR patting him?

G4 is a student nods at H.

- Avoid gaze contact not to greet(ed)

- Return greeting by nodding

W comes take order.

- Will he greet? How?



Factors influencing greeting

1. **Personality of H**
jovial, returns greetings usually
2. **Bodily capabilities of H**
corpulent, avoids moving around, uses voice
3. **The physical situation**
shape, occupation, noise.
4. **Social rules**
do not interrupt conversation/eating, respect emotions, privacy, rules in a restaurant
5. **Relationships and (past) encounters**
(dis)likes, needs to talk to, already greeted,...



Where to deal with them?

A) Incorporate all relevant information **in FML**

```
<fml>
```

```
  <greet speaker="PERSON1"  
    target="PERSON2"  
    speaker_personality="JOVIAL"  
    speaker_body="LAZY"  
    target_relationship="FRIEND"  
    distance="CLOSE"  
    environment_noise="MEDIUM" ... >
```

```
  ...
```

```
</fml>
```



Where to deal with them?

- B) These are details influencing behaviour, so BML should 'know' how where to get the relevant information from, and what to do with it

```
<fml>
```

```
<greet speaker="PERSON1"  
target="PERSON2"  
location="RESTAURANT1"
```

```
</fml>
```



In what detail?

- Greet decomposed into:
 - establish eye contact
 - do greeting act
 - check feedback from other
- How long should one keep trying?
 - Importance/time-span of intentions
 - Competing/emerging intentions
 - Consequences from lowest level to intentions
(the other does not want to talk to me/want to keep privacy)



Issues ahead

- An **ontology of intents** is to be developed, which may be extended: Communicative, or also locomotive, manipulative and operational, ...
- What are basic, elementary intent units?
- Do we define in FML **routine or reflex-like behaviors based on intent**?
- **Maintaining** the 'life-time' of intents, their co-existence, priorities.
- **Knowledge concerning the (changing) world.**
- **Identity (and other characteristics) of the humanoids.**
- Relation to **other cognitive architectures? Emotion markup?**
- Particularly, how to **interpret low-level feedback** from the behavior realizer to give up an intent, and based on the information generate another, different one?



Issues ahead - cont

- **Objectives and envisioned merits** of using/creating an FML.
 - basis for allowing styled/individual multimodal behavior
 - design and declare functions,
 - analyze behavior on a functional level, in a uniform language
- A Core FML, with a corresponding **functionary** (analog to **gestuary**) may be designed for communicative functions. Domain-specific collections of functions may be 'plugged in', to enrich behavior.
- LOD, corresponding also to perception capabilities?
- Mechanisms to handle **parameters** and **defaults**, also on time-span
- Mechanisms for **feedback** and **monitoring** – from where?
- In the definition of functions, **preconditions** and **consequences**, as well as possibly, decomposition into more refined functions should be dealt with.



Issues ahead

Let's start to tackle them!