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Children, Collaborative Story-development, Single Display

Groupware (SDG), Computer Supported Cooperative Work (CSCW),

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1.0 Introduction



1.1 Concept Outline

_clayMade aims to interactively enable kids to play and learn as a group using self modeled real world objects which serve as signifiers and their movement and interactions, a trigger to objects in their fantasy.

_interactive learning about real world signifiers using the kid's fantasy and imagination. Aids communication between children.

_visuals are created for the modeled characters and the environment on a screen.

_movement of animals and building of their environments on the screen would happen by movement and placement of self modeled physical objects.

_animated visuals and interactions between animals serve as trigger for story development.

_multiple kids play together, leading to the development of a story in real time.

1.0 Introduction

1.2 Conceptual Model



Fig. 1.
User Profile for children aged 4-5:
_tend to become much more social
_collaborate with each other to create and combine ideas
_coordinate roles and understand complex stories

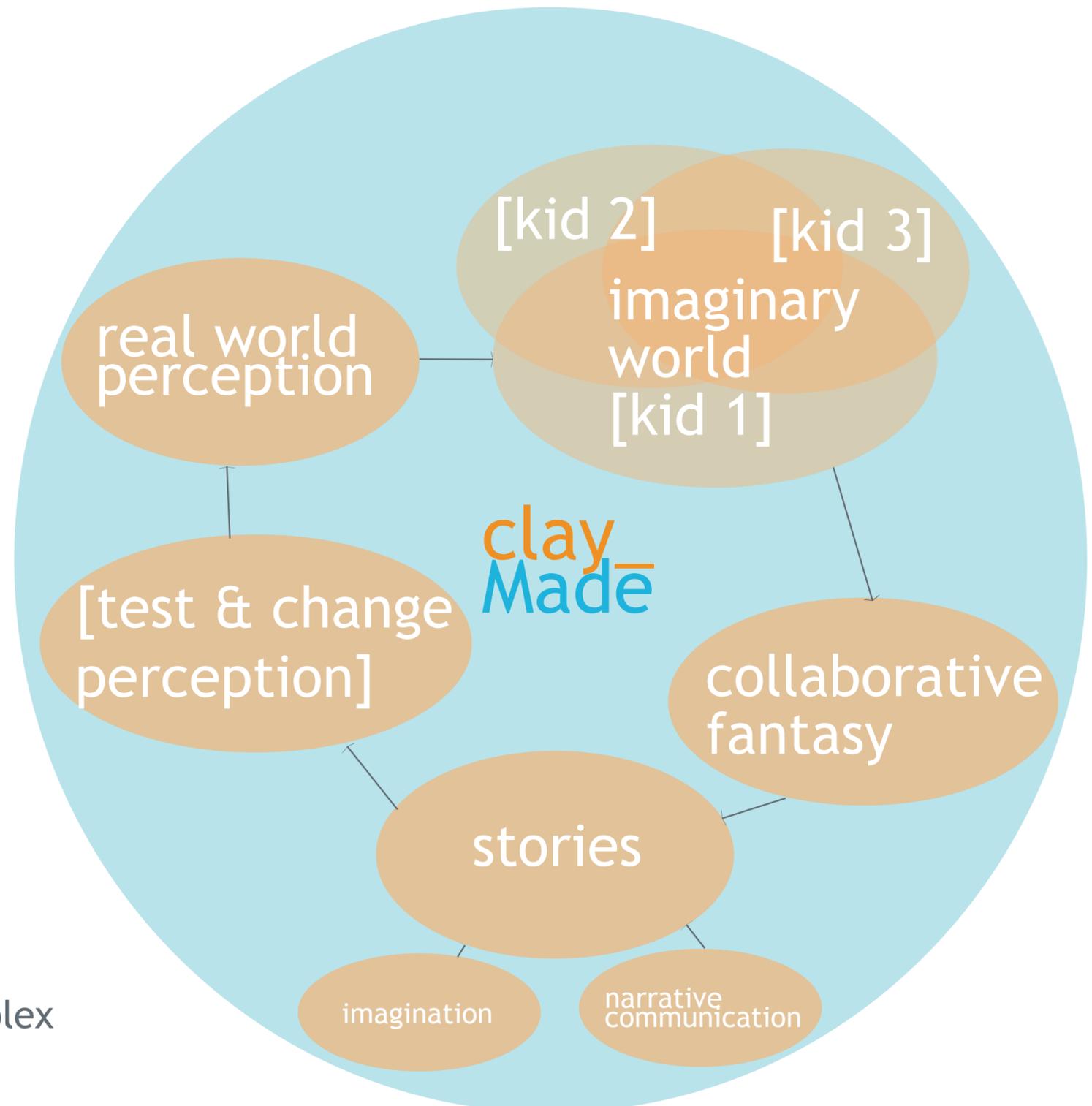


Fig. 2. Depiction of how clayMade aids children in testing their imagination and fantasy through physical means.

1.0 Introduction

1.2 Conceptual Model

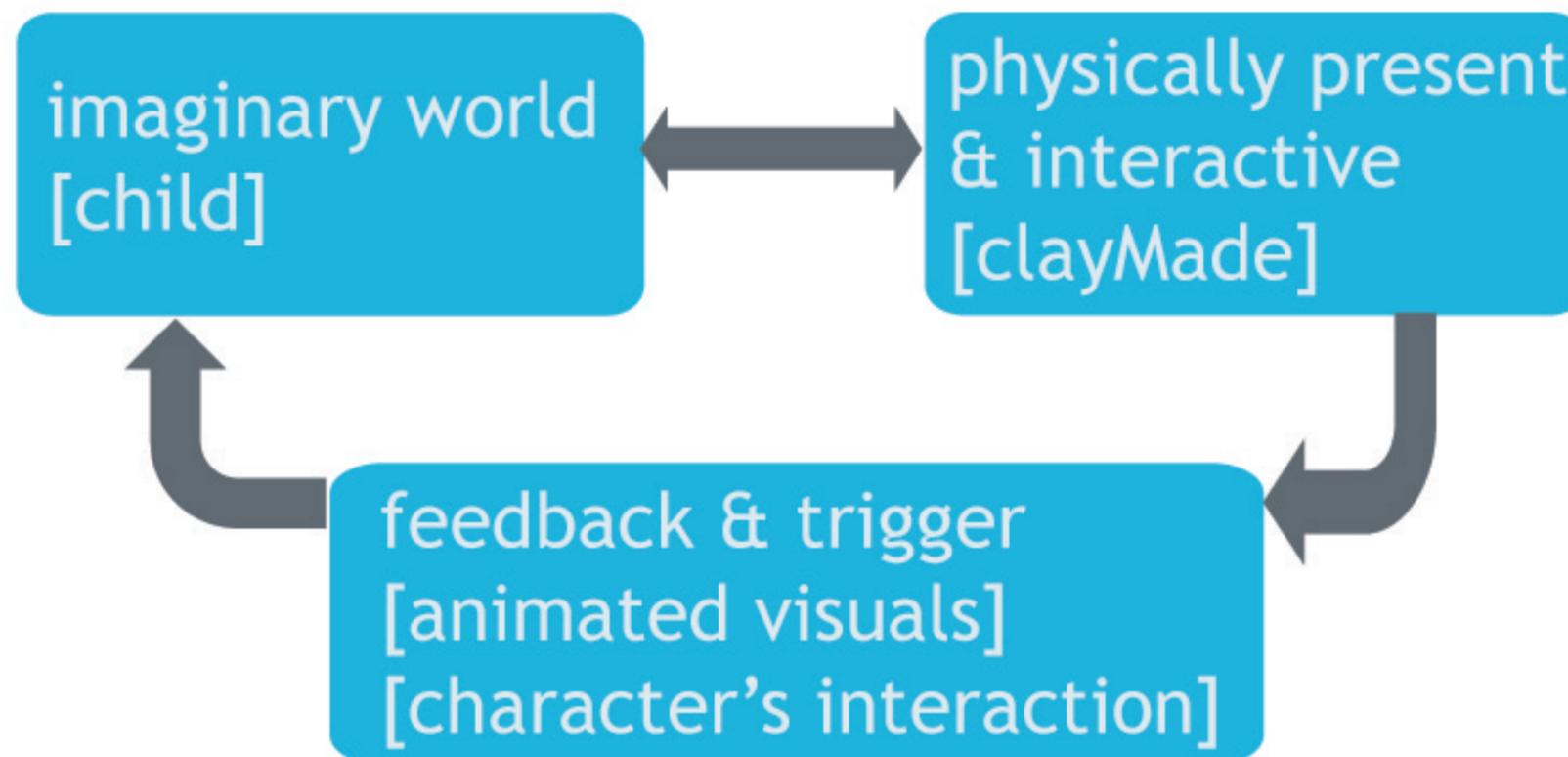


Fig. 3. Interaction Model on which clayMade is based.

“studies that investigated symbolic attributions of young children have traditionally been based on the observation of children during free play. Doll houses are often used as props because they provide a familiar context of daily life routine that can be easily enacted by children during fantasy play.”[1]

[1] Evi Indriasari Mansor, Antonella De Angeli, Oscar de Bruijn, (2009), The Fantasy Table, [Online PDF]. Available at <http://portal.acm.org/citation.cfm?id=1551788.1551801&coll=Portal&dl=GUIDE&CFID=68169667&CFTOKEN=70271913>

2.0 Method

2.1 Form & Implementation Strategy



Fig. 4. clayMade setup



Fig. 5. front view

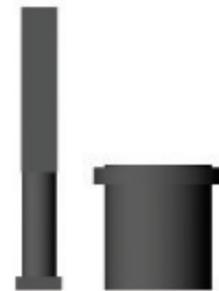


Fig. 6. side view



Fig. 7. illustration depicting clayMade at work

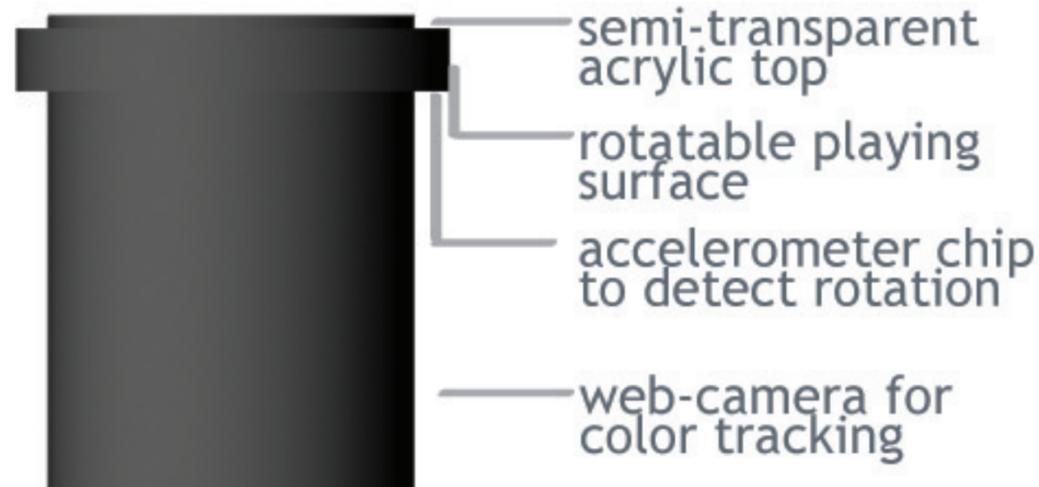


Fig. 8. implementation strategy

_color tracking using webcams.
_rotation by information tracked by accelerometer, screen rotated accordingly.
_objects are assigned specific non repeated colors.
_visual feedback through screen.

2.0 Method

2.2 Scenario



[Fig. 9-14.Scenario]
Mrs. Thomas teaches at Tiny Tots preschool.



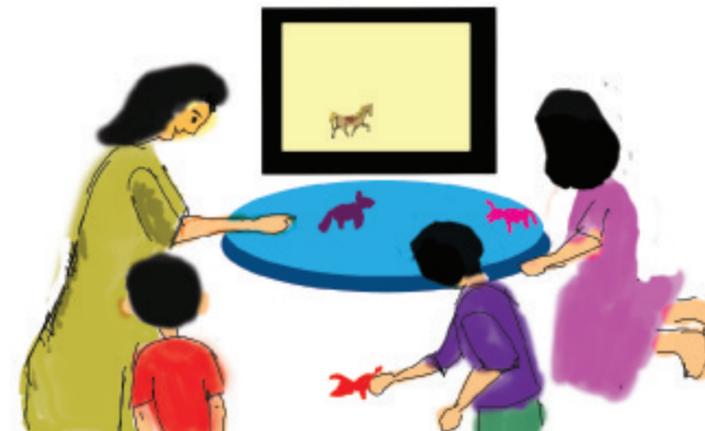
Mrs. Thomas: "Today we are going to make animals on our own with colorful play-clay. Each one will make their own animal."



Amit: "I want to make my dog Tom"
Sanju: "I want to make horse"
Pinky: "I want to make a cow"



Mrs. Thomas gives red clay to Sanju, blue clay to Amit and pink clay to Pinky. Kids start making their animals.



Mrs. Thomas takes Sanju's horse & assigns the clay color to horse using the clayMade software. A horse appears on screen & neighs.



Kids start playing with their animals on the claymade board. All are excited seeing their animals come to life on screen.

2.0 Method

2.3 Field Study



Fig. 15-18. Observation of children playing alone and in groups with playing dough/clay.

2.4 Stakeholders and Tasks

Stakeholders: teachers, children, parents [indirect]

Children:

_create the model of an animal out of a specific color.

_add elements of the environment (immovable living/non-living objects) like lakes, trees etc. Also made with playing clay/dough.

_move the animal across the board, making it interact with other animals and elements of environment that they or their peers created.

Teacher:

_act as moderator and the guide for children while they create stories.

3.0 Conclusion/References



Clay made is an experimental design which facilitates collaborative story building through tangible self made toys and animated visuals. Simple modelling clay and interactive animations are brought together to bring kids imagination to life.

It can easily be extended with more games and more animals. Games can be made more focused to teach specific subjects to older children. Gesture recognition abilities might also be added to it, making the gameplay even more immersive.

3.1 References

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