

CS5245 Project Proposal – The Magic T-Shirt

1 Tentative Title

“The Magic T-Shirt”

2 The Story

Location: classroom

Characters: a boy (Bob), a girl (Alice), the teacher

The teacher is in the middle of the lecture.

Alice come in late and sits just next to Bob. Bob is wearing a T-shirt with a picture of him on the front side.

He is bored by the lecture, but he pretends to be attentive. The picture that is on his T-shirt starts to move and acts like someone who is bored and would like to be somewhere else: it describes the real feelings of Bob.

Alice notice that the strange picture on Bob's T-shirt is moving and that it's aware of the environment as it's miming her movements.

The lecture ends.

All the students have left the classroom. Alice tries to speak to Bob but he's not very talkative whereas Little Bob easily starts a conversation with her. Then he manages to arrange a date between “Big” Bob and Alice. Alice must go now but Bob hasn't finish to gather his stuff. Before going out of the room, she says goodbye to Bob and touches the T-shirt so that she gently caresses “Little” Bob's face.

(The story board is in appendix.)

3 The Effect

1) Character Extraction

- a) We shot a video clip of little Bob, and then key-out him from the background.
- b) Since the whole scene of the output video will contain two real characters, the size of little bob on the T-Shirt is a little small. If we use a real character to act the role of little Bob, the countenance is not explicit enough. So we have another idea which is to use a cartoon Bob generated by computer graphics instead.

2) Video Mapping

- a) We would like the paste the little Bob (the result of Character Extraction step) onto the T-Shirt. The T-Shirt may be not flat.
- b) If non-flat T-Shirt is too challenging, we try to use flat T-Shirt instead.

3) Lighting Effect

- a) There will be some shadow (it may be caused by Big Bob's arm) on the T-Shirt. The little Bob may be sometimes inside the shadow area.

- 4) Interaction between two characters from two scenes
 - a) Alice will touch the T-Shirt, so she could touch little Bob's face or body, and little Bob will do some reactions.

(At the beginning we will focus on the second effect – Video Mapping on Non-Flat Surfaces. If it doesn't look very nice, we will choose our fourth effect – Interaction as our main effect in this project.)

4 What is the input?

There are 2 video clips:

- 1) Big Bob and Alice in the tutorial room
- 2) Little Bob's actions (related to clip 1)

5 What is the output?

We will present a video which talks about the story described in the Idea part of this proposal.

6 How many layers?

Basically two layers: the live shot and the key-out Little Bob/CG Little Bob.

7 Who will do what?

Proposal: Everyone

Shooting: Everyone

CG animation: Zhang Xin

Maya modeling: Cedric Manzoni

Tracking Points: Wang Zhiyu

Compositing: Everyone

8 Tentative Time Line

Week 4: Try to borrow a 3D camera

Week 5: Shooting

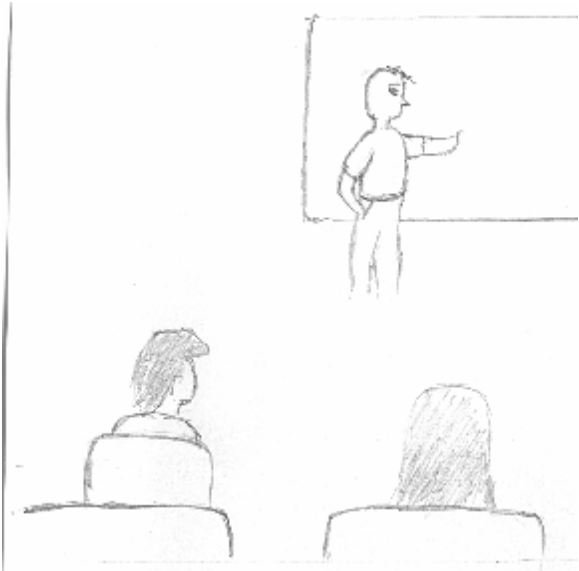
Week 6-8: CG animation, Maya modeling and Tracking points

Week 9: Compositing

Week 10: Integrate and release

Week 11: Presentation

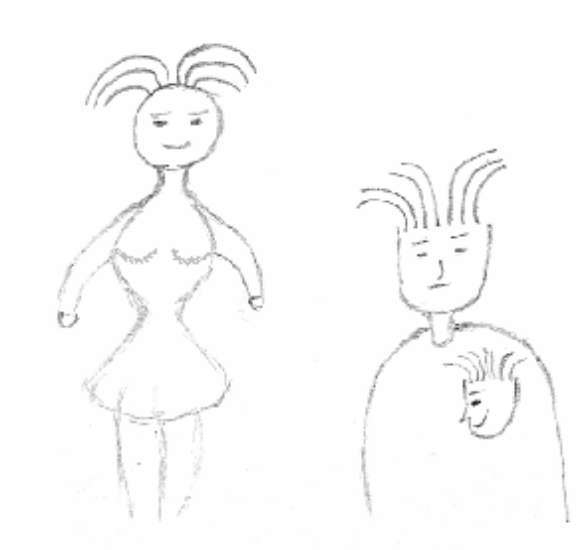
Appendix – Story Board



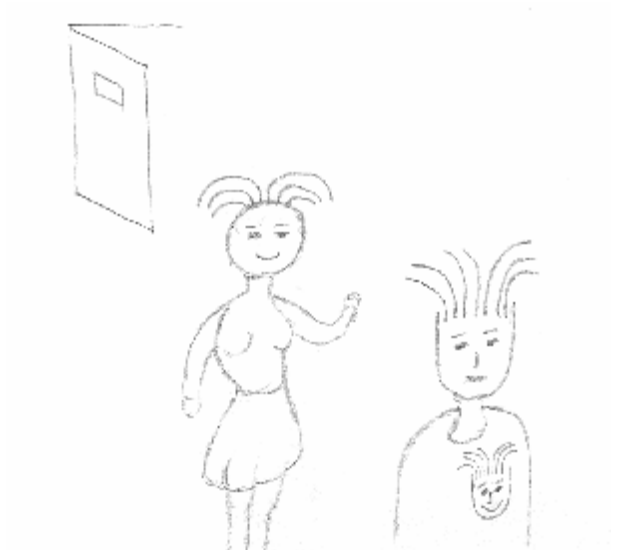
Scene 1: Story telling: There is a tutorial class going on.



Scene 2: Bob is pretending to be focusing in class, but in real he is getting bored of the class. The little Bob in his T-Shirt shows what Bob thinks.



Scene 3: Ten mins later, a nice-looking young lady comes into the classroom. Alice, she is late for the tutorial. Bob is still pretending to be focusing in class, but little Bob shows great interest in Alice by turning his head over.



Scene 4: Finally, the tutorial is over. Alice asks Bob to go for lunch together. Bob pretends to be cool and says "Let's go" calmly. But little Bob is already showing very excited.