Description Paper In TaiZhou Bilingual High school Team For Robocup Home Edu

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Part 1

Abstract ： This group is Gang group. We are from the robotics cup competition of bilingual senior high school, which is the latest research on mobile operation and human interaction ability in the exhibition center. The system is controlled by our team using computer and code.

1 Introduction

Our group is gang, from the International Department of bilingual senior high school. We were selected to stay in the competition after many layers of selection, and participated in the next robot competition. We always maintain a high love and interest in robots and programming. We are confident that we will stand out and win the top in the next competition, After a long time of efforts and efficient cooperation, we have completed our works.

2. dialog content

Say your name and hobbies to the robot. After the robot receives the information, it will record it in its own database and repeat the name.

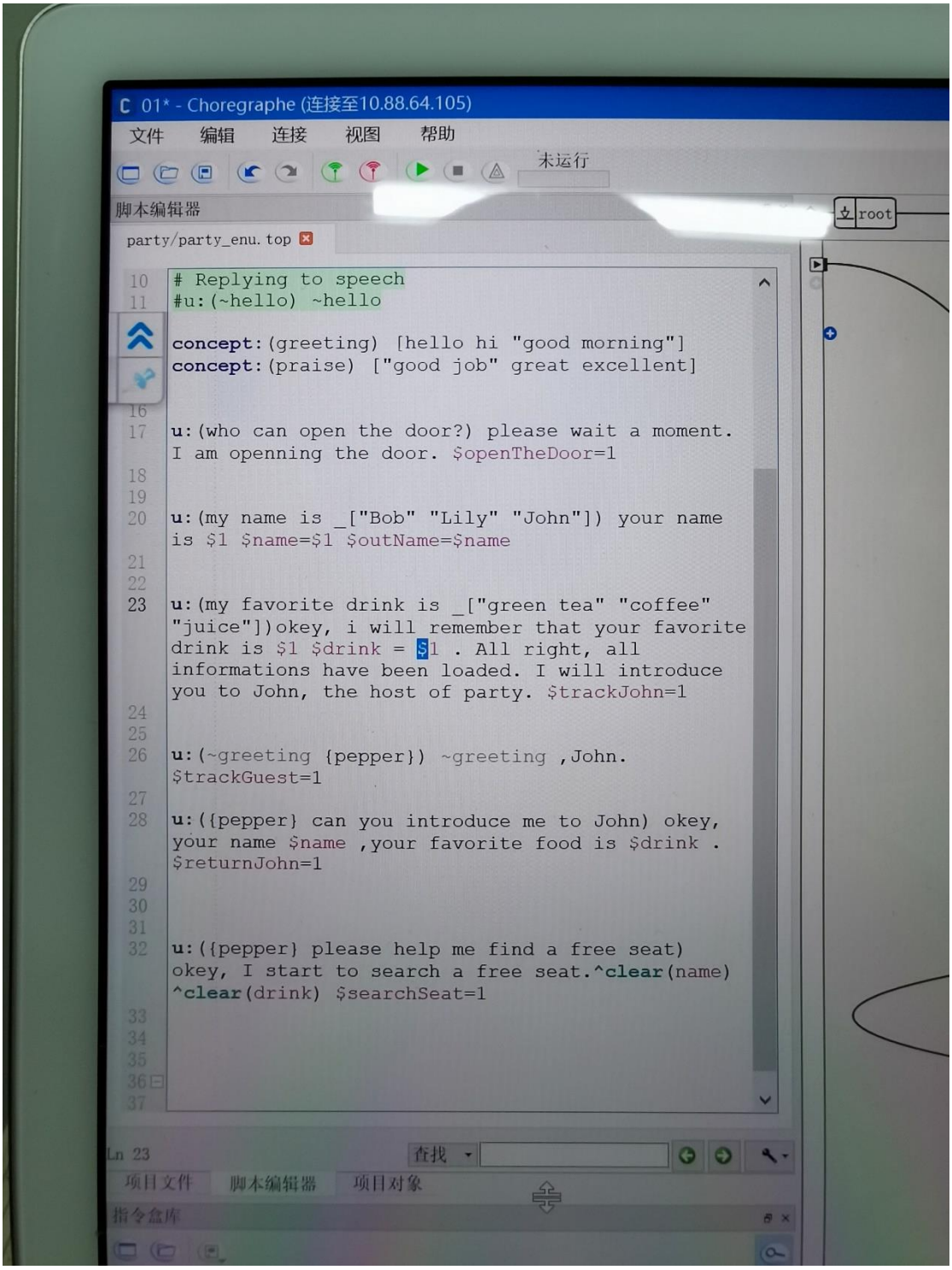

Figure 1.dialog content

3. Move Behaviour

We set the robot's behavior into several steps. In the first step, opening the door, we set the door closed when people are not allowed to enter, and open when the door is open. Then we use the command to control the robot to change the door from the closed state to the open state

In the second step, mobile, we set three fixed points in the room. The first one is the fixed point for opening the door. Then the robot moves from the fixed point for opening the door to the second one for face recognition. When the whole information is collected, the robot will go to the third fixed point. In the third fixed point, the robot will borrow information from you, Then explain the situation of the person who came in and help him find a place,.

The door doesn't meet the inspection standard of the robot, because the crack of the door is too small for the robot to enter

Figure 2.The situation of closed door

Figure 3.The situation of opened door

4. face recognization

Step 1: face learning face learning can record the face to the

database, then you can find the information of your face in the database, and match the corresponding name. For example, when John opens the door, he will record John's face. This is the point of face recognition

Step 2: face tracking after face learning, the robot will rotate 180 degrees. No matter whose face appears in the rotated visual angle, it will track the face. After tracking, it will recognize whether it is the face the robot needs,

Step 3: image recognition image recognition involves three chairs, which are props of the scene, namely a sofa and two chairs. In the process of searching for a chair, he will face the chair. When the chair is occupied, he will move to the next chair and remind you to sit on the empty chair. There are three chairs in total, and so on. In addition, the method of chair recognition is to save the original image of the empty chair. If someone is sitting, the image will deform, and the robot will think that this is not a chair, so it will move to the next coordinate.

Step 4: age recognition when you are learning face, the robot will automatically scan your face and recognize your age. Age recognition is also the focus of this scene, because only the oldest person can sit on the sofa.