1. Prepare

A. Download The Arduino IDE

Git: https://github.com/HippoDevices/arduino-1.5.5-windows

Zip: https://github.com/HippoDevices/arduino-1.5.5-windows/archive/master.zip

B. Download The HippoDevices Files

GIT: https://github.com/HippoDevices/HippoADK.git

Zip: https://github.com/HippoDevices/HippoADK/archive/master.zip

2. Structure

A. Open lego structure files:
/HippoADK/ structure/nexus7robot/Nexus7Robot.pdf
/HippoADK/ structure/hmnoteRobot/HMNoteRobot.pdf

B. Structure construction,

C. Hardware assemble

you can reference our article on instructables:
http://www.instructables.com/id/How-to-use-an-Android-device-and-Lego-NXT-to-build/

3. Demo programme

A. Arduino

Open BalanceRobotADK.ino:

\HippoADK\Demo\BalanceRobot\BalanceRobotADK-Arduino
Selected Hippo Board&com port;

B. Android

Install BalanceRobotADK.apk:
HippoADK\Demo\BalanceRobot\APK

4. Run your Robot

A. Access power source;
B. A dialog box appears,click OK;
C. Then adjust PID value,lego robot will keep balance by Himself;

5. PID Value Adjust

PID value depends on centre of gravity, Wheel Diameter and so on;
If you according to our manual build of Nexus 7 robot, The PID value is:

KAngle = 67;
KAngleSpeed = 64;
KPosition = 50;
KPositionSpeed = 78;
KBaseAngle = 11;

6. Todo

A. PID Adjust method
B. Remote control
C. The same LAN automatic recognition