



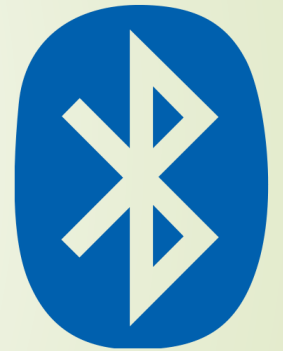
BattleShip Bluetooth

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Introduction

Have you ever played in the Battleship game?

Now with the new application you can play with your smartphone using the Bluetooth functionality of your device.



Number of the project

Line of Code

14319

Java Class

30

Comment lines %

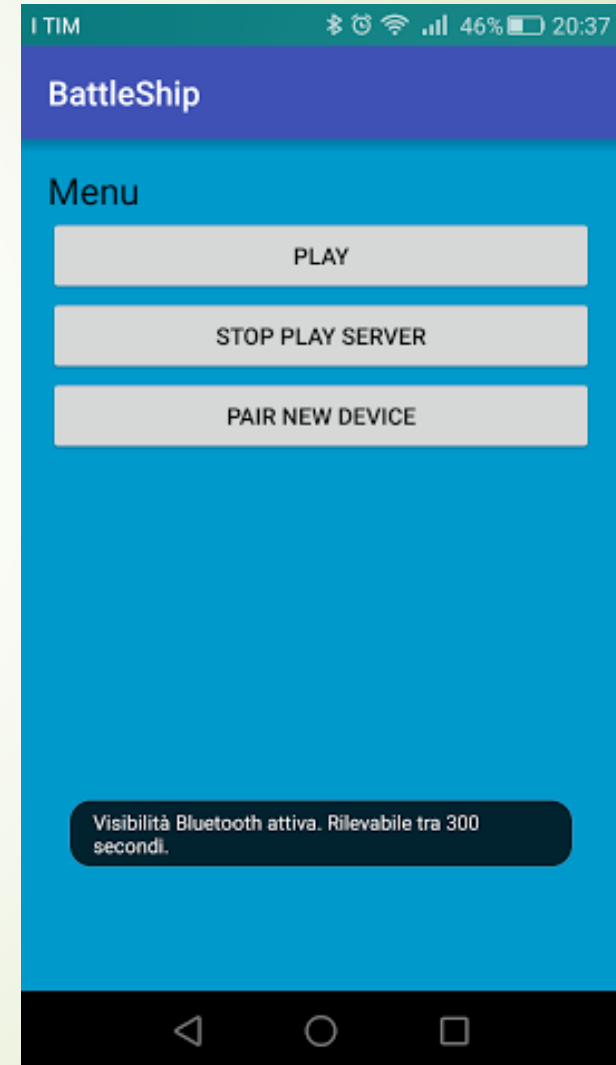
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How the application works (1)

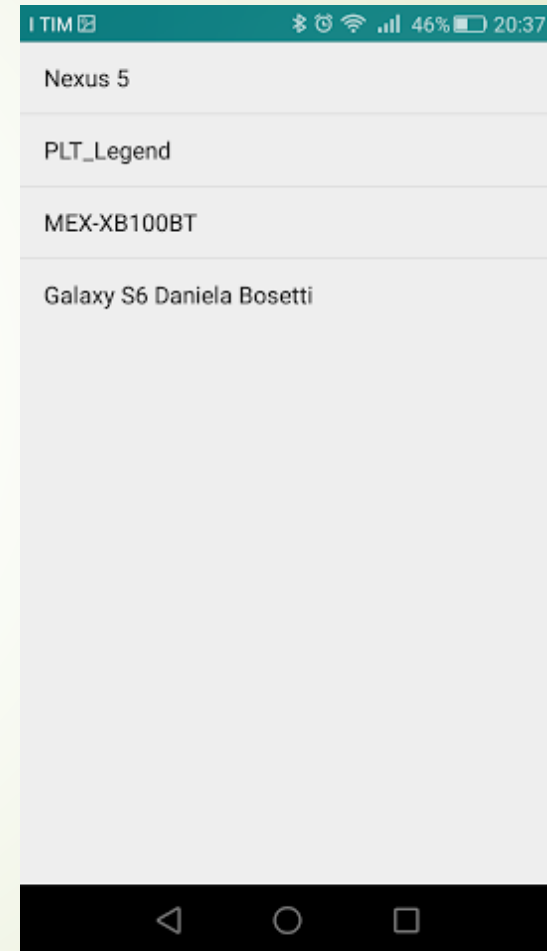
In the first step the user decides whether to run the application in server or client mode.

In order to play, the device must be paired, with the third item of the menu the user can start the operating system pairing process.



How the application works (2)

If the application is started in the server mode a silent thread wait a connection from the other device; otherwise if the application is started in the client mode the user has to choose the enemy from the operating system paired device list.



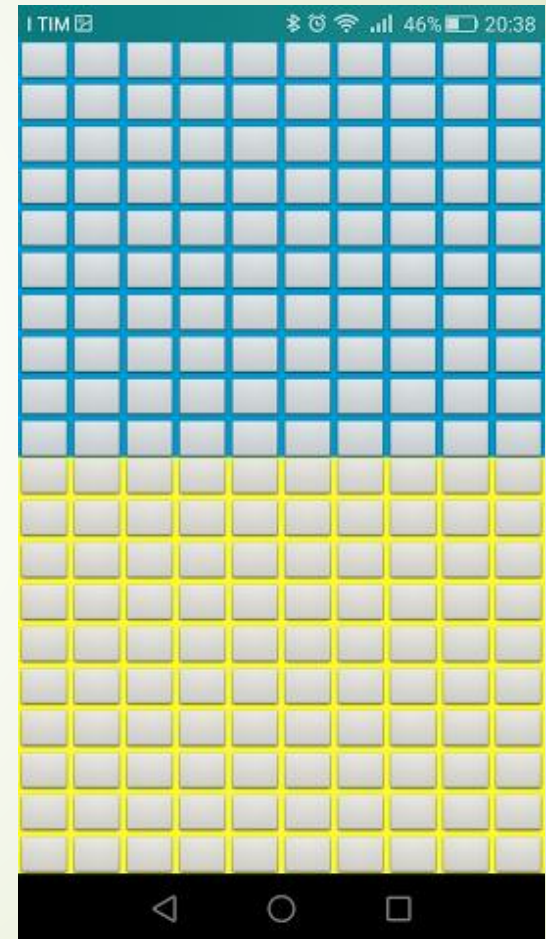
How the application works (3)

After the connection succeeds and the socket enters in established mode a new activity with the play field is showed.

The user can set the boat on local game Board (blue).

When the user finishes to set the boat on the local board, the device generates a random number.

This two numbers are exchanged from the device: the device with the biggest number shoots first.

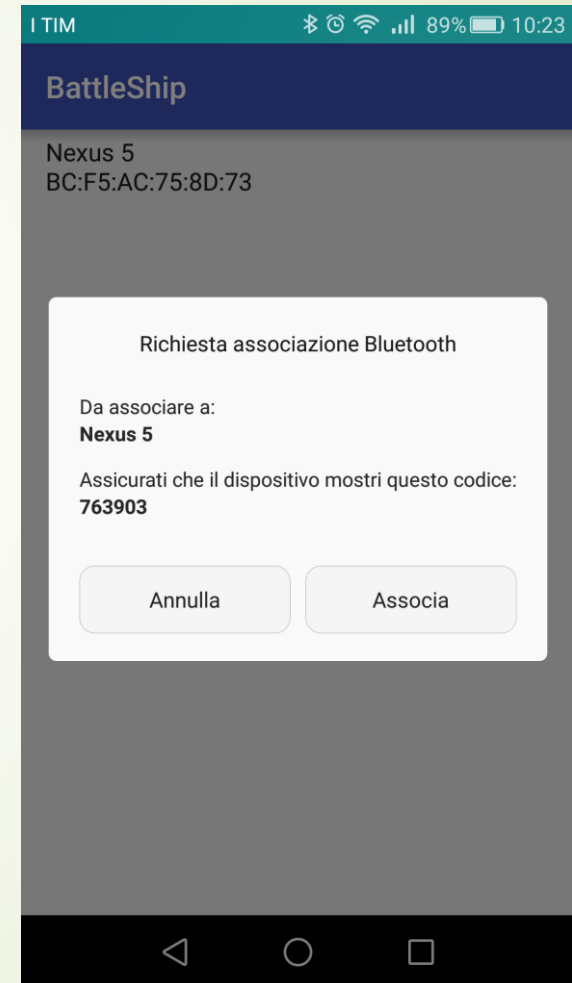


The pairing process

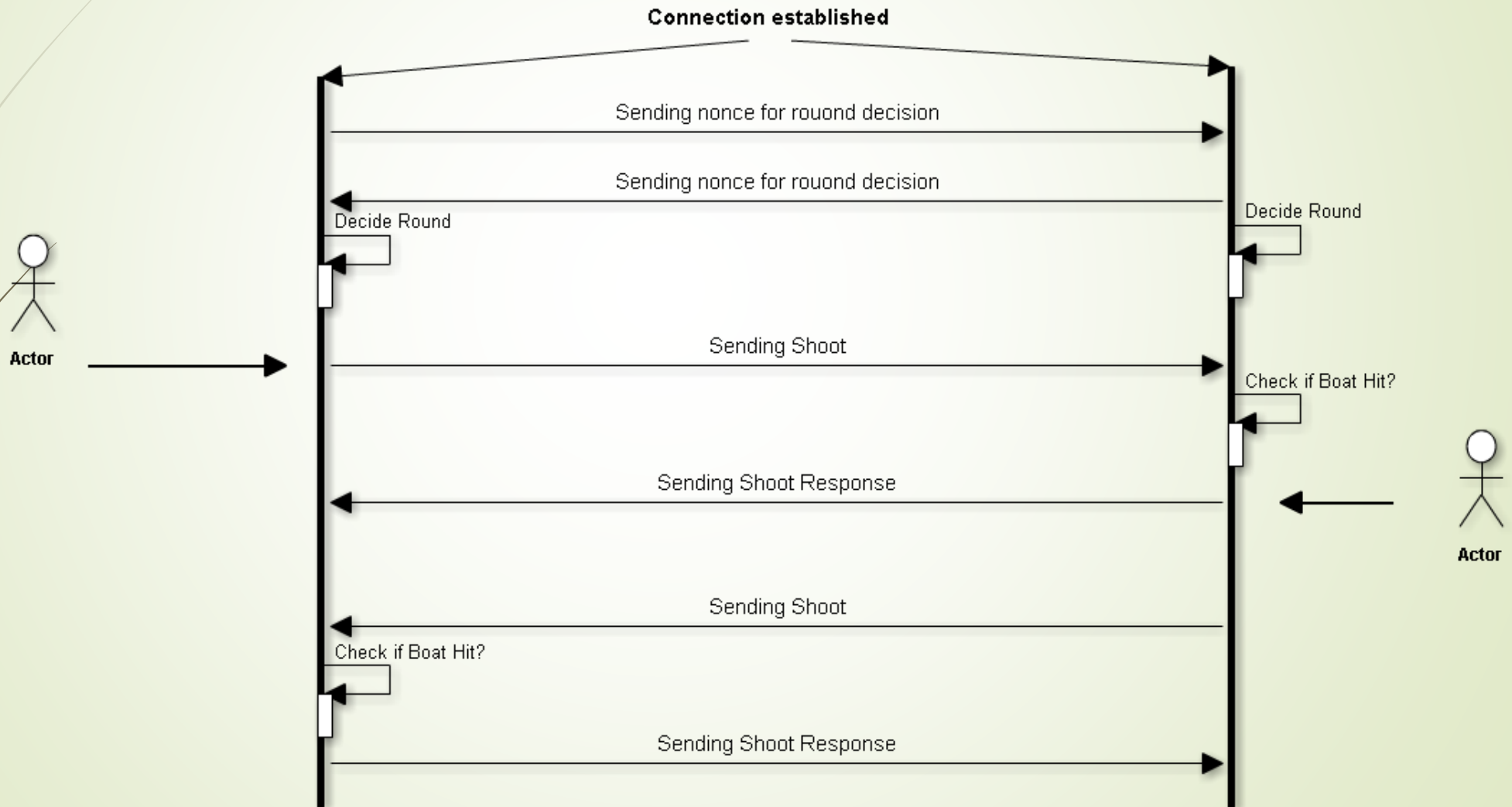
The entire process of pairing is managed by the operating system.

The devices exchange a code and a popup request to the user to confirm a process.

The game socket is established only if the two devices are paired with each other.



The Game message (1)





The Game Message (2)

- ▶ **DECIDE_FIRST_SHOOT:** In this phase all boats are positioned in the game board: for deciding what player starts to shoot, two number between 0 a 65536, one for device, are randomly chosen. The numbers are exchanged by the two instances of application and the device with the biggest number is the first to shoot.
- ▶ **SHOOT:** In this message one player sends the shooting coordinate to other player. This message indicates the row and the column of the enemy board.
- ▶ **SHOOT_RESPONSE:** In this message the player responds of a SHOOT message, indicating if the target has been hit or not. This message includes the row and column and the shooting information response
- ▶ **NOTIFY_WIN:** The device loser notifies to the other device that the game is over.



Conclusion

The Battleship application perfectly fits the project goal. Now, with this application, it is possible to playing a Battleship game using a Bluetooth connection; the application is easily useful and it can be run in Android device with the built in Bluetooth module: this method permits to maintain the cost of the product very low.

The application use a RFCOMM Bluetooth method, that uses an emulated RS-232 console over a wireless connection, so it's easy using and developing it