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Cross-platform

Bluetooth

- Tried various Libraries
 - No Cross-Platform, which we consider mandatory
 - Mostly BLE for Heart rate monitors, etc.
 - Buggy or outdated
 - Couldn't even get Android to Android working
- cordova-plugin-chrome-apps-bluetoothSocket
- cordova-plugin-networking-bluetooth
- cordova-plugin-ble-central
- BluetoothSerial

Network

- Platform independent
- Global matchmaking
- Everybody is de facto online
- Common use case
- Well documented and many possibilities
- We need a backend anyway... (more later)

Network

- Use of socket.io
 - enables real-time bidirectional event-based communication
 - up-to-date and well maintained
 - easy to use with NodeJS Server
 - easy to use with Cordova
 - NPM package



Network

- socket.io server runs as Node-app inside a Docker container
- nginx container in front as http proxy
 - forwards traffic to container
 - accessible through <http://kdeubler.at/socket.io/>
- a little bit of work to get websockets through



Network

- app.js starts the server
- include socket.io
- include game.js
 - contains listeners
 - execute „network logic“
- defined in package.json
- listens on incoming connections

```
var server = require('http').createServer();
var io = require('socket.io')(server);

var battleship = require('./game');

io.sockets.on('connection', function (socket) {
  console.log('Client connected');

  battleship.initGame(io, socket);
});

server.listen(8082);
```

Network

- define functions that can be called by the client

```
gameSocket.on('hostCreateNewGame', hostCreateNewGame);  
gameSocket.on('startGame', startGame);  
gameSocket.on('playerJoinGame', playerJoinGame);  
gameSocket.on('playerPlaceShipsFinished', playerPlaceShipsFinished);  
  
gameSocket.on('playerFire', playerFire);  
gameSocket.on('playerFireResult', playerFireResult);  
gameSocket.on('playerFieldSelection', playerFieldSelection);  
gameSocket.on('playerGameEnded', playerGameEnded);
```

- socket.io manages sockets in „rooms“

- perfect for our case
- host creates room
- second player joins room
- emit messages within this room
- different broadcasting methods
 - send to all except sender

```
function startGame(gameId) {  
  console.log("All Players Present. Starting game...");  
  var sock = this;  
  var data = {  
    mySocketId : sock.id,  
    gameId : gameId,  
  };  
  
  io.sockets.in(gameId).emit('beginGame', data);  
};
```

Network

```
socket = io('http://localhost:8082');
socket.on('gameHosted', gameHosted);
socket.on('beginGame', beginGame);
socket.on('onError', onError);

socket.on('otherPlayerFired', otherPlayerFired);
socket.on('otherPlayerGameEnded', otherPlayerGameEnded);
socket.on('otherPlayerFireResultReceived', otherPlayerFireResultReceived);
socket.on('otherPlayerFieldSelected', otherPlayerFieldSelected);
```

```
function playerJoinGame(data) {
    console.log('Player ' + data.playerName + ' attempting to join game: ' + data.gameId );

    // A reference to the player's Socket.IO socket object
    var sock = this;

    try {
        // Look up the room ID in the Socket.IO manager object.
        var room = io.sockets.adapter.rooms[data.gameId];

        if (room !== undefined){
            // attach the socket id to the data object.
            data.mySocketId = sock.id;

            // Join the room
            sock.join(data.gameId);

            console.log('Player ' + data.playerName + ' joined game: ' + data.gameId );

            // Directly start game
            startGame(data.gameId);
        }
    }
}
```

```
function joinGame() {
    console.log("Join game");

    var gameData = {
        gameId: document.getElementById("myConsole").value,
        playerName: "Knusbert"
    };

    socket.emit('playerJoinGame', gameData);
}
```



Google Play Services
iOS Game Center

Google Developer Console

- Create
- Link
- Authorize
- Test

The screenshot shows the 'Client ID Settings' page in the Google Developer Console. At the top, there's a navigation bar with a back arrow, an Android icon, and the text 'HELLO'. Below this, the application name 'Battleship' and its package name '837138448899' are displayed. A button 'Bereit zum Testen' is in the top right. The left sidebar contains a menu with categories: 'Spieleranalyse' (Overview, Umsatzdetails, Demografische Merkmale, Ereignisanzeige, Zeitreihen, Trichter, Kohorten), 'Funktionsanalyse' (Overview, Interaktionsdetails), 'Missionen', and 'Test' (highlighted). The main content area is titled 'GOOGLE PLAY-SPIELDIENSTE TESTEN' with a button 'Weiter zum nächsten Schritt'. A green message box states: 'Die Einstellungen für die Google Play-Spieldienste können jetzt getestet werden.' Below this, the 'TESTZUGRIFF' section explains that the following users can test the app. A 'Tester hinzufügen' button is present. A table lists the testers: 'deubler.konrad@gmail.com' (with a close button), 'Alphatester für HelloCordova' (with a green checkmark icon), and 'Betatester für HelloCordova' (with a red X icon).

Client ID Settings

Application type

Battleship
837138448899

Bereit zum Testen

Spieleranalyse

- Übersicht
- Umsatzdetails
- Demografische Merkmale
- Ereignisanzeige
- Zeitreihen
- Trichter
- Kohorten

Funktionsanalyse

- Übersicht
- Interaktionsdetails

Missionen

Infos zum Spiel

Verknüpfte Apps

Ereignisse

Erfolge

Bestenlisten

Test

Veröffentlichung

GOOGLE PLAY-SPIELDIENSTE TESTEN

Weiter zum nächsten Schritt

Die Einstellungen für die Google Play-Spieldienste können jetzt getestet werden.

TESTZUGRIFF

Die folgenden Nutzer können deine gespeicherten Entwürfe für Google Play-Spieldienste vor ihrer Veröffentlichung testen.

Tester hinzufügen

deubler.konrad@gmail.com

Die folgenden Gruppen können deine gespeicherten Entwürfe für Google Play-Spieldienste vor ihrer Veröffentlichung testen. Du musst dein Android-APK auch für den Alpha- oder Beta-Test veröffentlichen. [Learn more](#)

Alphatester für HelloCordova

Betatester für HelloCordova

Google Developer Console II

- Add

MY RACING GAME - 314159256369


Ready to test

< NEW ACHIEVEMENT

Save

Save and add another achievement

English (United States)

 Battleship
837138448899

Bereit zum Testen


Spieleranalyse


- Übersicht
- Umsatzdetails
- Demografische Merkmale
- Ereignisanzeige
- Zeitreihen
- Trichter
- Kohorten


Funktionsanalyse


- Übersicht
- Interaktionsdetails

Missionen

Infos zum Spiel 

Verknüpfte Apps 

Ereignisse 



Erfolge 

ERFOLGE

Neuen Erfolg hinzufügen

 oder

Weiter zum nächsten Schritt

NR.	NAME	ID	PUNKTE	ERREICHT IN % # INSGESAMT/ZEIT	STATUS
1	 First Game	Cgklg4Tcyq4YEAIQAA	5	—	 Bereit zum Testen

Ressourcen abrufen

Gesamtpunktzahl: 5

Du musst noch mindestens 4 weitere Erfolge hinzufügen, um dein Spiel veröffentlichen zu können.

In der [Entwicklerdokumentation](#) erfährst du alles über die Implementierung von Erfolgen.

Plugins

- [artberri/cordova-plugin-play-games-services](#)
- [cranberrygame/cordova-plugin-game](#)
- [ludei/atomic-plugins-googleplaygames](#)
- [cocoon-google-play-games-social-plugin](#)
- [floatinghotpot/google-play-services](#)

Result

The application is incorrectly configured. Check that the package name and signing certificate match the client ID created in Developer Console. Also, if the application is not yet published, check that the account you are trying to sign in with is listed as a tester account. See logs for more information.

OK

Alternatives

- Facebook Games API
 - Plugins available
- Write new Plugin for Google Play Services
- Own Webservice

Pitfalls / things I liked

- Plugins are written for one app and not maintained
- Plugins often copies of other plugins with few “enhancement”
- Google Play Service Documentation

Good starting points

- [Google Play Services API Documentation](#)
- [iOS Developer Library](#)

Demo

Questions?