# Cordova INDMEX RIWS Plugin

This plugin interfaces directly with the INDMEX GPS and power charging hardware that is connected to the iOS Device via the lightning port connector and uses the highly accurate position data and trajectory data from the GPS to feed the INDMEX RIWS algorithms which in turn returns the details of a potential incursion to the Veoci application to triger visual and audible alerts for the user interface.

To minimize latency in the system for the display of the vehicles current location on the Veoci map centric UI, the Veoci system will utilize the native iOS location services. iOS location services will receive data from the INDMEX GPS when this is connected to the iOS tablet or in the event that an INDMEX GPS is not connected, from the native GPS unit on the device.

The Cordova plugin will utilize a direct connection to the INDMEX GPS to obtain positional information at a rate of 10Hz and with an accuracy of < 3m 95%, for use in determining if an RIWS alert is warranted on the Veoci application.

## Installation

This requires cordova 5.0+

cordova plugin add https://github.com/<indmexgithub>/cordova-plugin-riws.git

## API Reference

* riws
  + [.addPolygon()](#_riws.addPolygon(successCallback,_errorC)
  + [.removePolgon()](#_riws.removePolygon(successCallback,_err)
  + [.removeAll()](#_riws.removeAll(successCallback,_errorCa)
  + [.onSuccess():](#_riws.onSuccess_:_function) function
  + [.OnError():](#_riws.onError_:_function) function
  + [.initriws()](#_riws.initriws(RunwayIncursionCallback,_)
  + [. isConnected()](#_riws._isConnected_(successCallback,)
  + .onRunwayIncursion : function
  + [.onEndRunwayIncursion : function](#_riws.onEndRunwayIncursion:_function)

### riws

### riws.addPolygon(successCallback, errorCallback, replaceifexists, options)

Adds a polygon that the RIWS algorithm will use.

Parameters

| **Param** | **Type** | **Description** |
| --- | --- | --- |
| successCallback | [onSuccess](#_riws.onSuccess_:_function_1) | Callback if adding polygon is success. |
| errorCallback | [onError](#_riws.onError_:_function_1) | Callback if adding polygon failed. |
| replaceifexists | Boolean | Replaces the polygon if it already exists. |
| options | [PolygonDef](#_riws.PolygonDef:Object) | Polygon Object. |

Multiple such polygons can be added. Polygons added will be persisted even on shutdown and restart of the app.

|  |  |  |
| --- | --- | --- |
|  |  |  |

### riws.removePolygon(successCallback, errorCallback, options)

Removes a polygon

Parameters

| **Param** | **Type** | **Description** |
| --- | --- | --- |
| successCallback | [onSuccess](#_riws.onSuccess_:_function_1) | Callback if removing polygon is success. |
| errorCallback | [onError](#_riws.onError_:_function_1) | Callback if removing polygon failed. Also raised if no polygon is found. |
| options | [PolygonDef](#_riws.PolygonDef:Object) | Polygon Object.(will match just the attributes specified in the object and will delete the first one that matches) |

### riws.removeAll(successCallback, errorCallback)

Removes all polygons

Parameters

| **Param** | **Type** | **Description** |
| --- | --- | --- |
| successCallback | [onSuccess](#_riws.onSuccess_:_function_1) | Callback if removing polygons is success. |
| errorCallback | [onError](#_riws.onError_:_function_1) | Callback if removing polygons failed. |

### riws. isConnected (successCallback, errorCallback)

successCallback event will be triggered when a device is connected or disconnected.

Parameters

| **Param** | **Type** | **Description** |
| --- | --- | --- |
| successCallback | [onSuccess](#_riws.onSuccess_:_function_1) | Callback if external gps device is added or removed. |
| errorCallback | [onError](#_riws.onError_:_function_1) | Callback if initializing device connection event failed. |

### riws.initriws(RunwayIncursionCallback, endRunwayIncursionCallBack, errorCallback)

Initilizes the RIWS algorithm.

Parameters

| **Param** | **Type** | **Description** |
| --- | --- | --- |
| RunwayIncursionCallback | [onRunwayIncursion](#_riws._onRunwayIncursion:_function_1) | Callback if an Incursion Event happens. |
| endRunwayIncursionCallback | [onEndRunwayIncursion](#_riws._onEndRunwayIncursion:_function) | Callback if an Incursion Event happens. |
| errorCallback | [onError](#_riws.onError_:_function_1) | Callback if initialization failed. |

### riws.onRunwayIncursion: function

Callback function that provides the incursion details.

**Kind**: static typedef of riws

| **Param** | **Type** | **Description** |
| --- | --- | --- |
| incursion | [Incursion](#_riws.Incursion:Object) | The incursion object with details about the incursion. |

### riws.onEndRunwayIncursion: function

Callback function when the incursion ends, also provides the incursion details.

**Kind**: static typedef of riws

| **Param** | **Type** | **Description** |
| --- | --- | --- |
| IncursionEventID | string | The unique id of the incursion event that ended |

### riws.PolygonDef:Object

Definition of a polygon object.

| **Name** | **Type** | **Description** |
| --- | --- | --- |
| name | string | Name of the Polygon |
| type | string | the type of the polygon, typically, runway, holdshort,…. |
| geojson | string | the polygon definition in GeoJSON format. |

### riws.Incursion:Object

Definition of an Incursion object.

| **Name** | **Type** | **Description** |
| --- | --- | --- |
| IncursionEventID | string | The unique id of incursion event. Every incursion event will have a unique id. |
| IncursionText | string | The Text of the Incursion |
| TextColor | string | Hexcode of the color of the Incursion text |
| AudioFile | string | Name of the Audio file. |
| GroupName | String | The name of the group the polygon is in. |
| Time | Long | The Unix time of Incursion. |

### riws.onSuccess : function

Callback function that provides a successmessage.

**Kind**: static typedef of riws

| **Param** | **Type** | **Description** |
| --- | --- | --- |
| message | string | The success message. |

### riws.onError : function

Callback function that provides an error message.

**Kind**: static typedef of riws

| **Param** | **Type** | **Description** |
| --- | --- | --- |
| message | string | The error message. |