



Blackberry BBM SDK

Week 2: BBM SDK for WebWorks



Overview

- Overview of the BBM SDK for WebWorks
- Key BBM SDK Classes in WebWorks
- Tools
- References



Overview of the BBM SDK for WebWorks

- Provides an API that is used in conjunction with the WebWorks SDK that allows developers to leverage social features and functionality of the BBM platform in WebWorks applications
- SDK allows use of the BBM infrastructure to communicate between instances of your application on multiple BlackBerry devices



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**Key BBM SDK Packages in
WebWorks**



Key BBM SDK Packages in WebWorks

- There are a number of WebWorks packages in the BBM SDK which are used for different purposes
- Key functions of the BBM Platform package
 - Register:
 - Applications must obtain access to the platform by calling the register() function
 - Before the register() function is called, the application must assign a callback to onaccesschanged before registering
 - A dialog will be shown to guide the user when registering



BBM Platform Package

```
<script type="text/javascript">  
// Create callback invoked when access changes  
blackberry.bbm.platform.onaccesschanged = function(accessible, status) {  
    if (status == "allowed") {  
        // Access allowed  
    } else if (status == "user") {  
        // Access blocked by user  
    } else if (status == "rim") {  
        // Access blocked by RIM  
    }  
};  
  
// Register with the platform  
blackberry.bbm.platform.register({  
    uuid: "xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx" // Randomly generated UUID  
});  
</script>
```



BBM Platform Package

- **Parameters for Register:**
 - **UUID: Must be at least 36 characters long (for example: 58c8c999-fdc6-4709-816f-86cd1fe95e25) or else an exception will be thrown. Any UUID generator can be used**
 - **requestUserPermission:**
 - **Shows a dialog which prompts the user to connect the application to BBM. Will only work if the application is blocked by the user**
 - **Parameters for requestUserPermission:**
 - **OnComplete (function): Called when the user finished connecting the app to BBM**
 - **Connected (boolean): true if app is connected to BBM**



BBM Platform Package

```
<script type="text/javascript">
```

```
// Prompt the user to connect to BBM, and call register() if they do
blackberry.bbm.platform.requestUserPermission(function(allowed)
{
    if(allowed)
    {
        // Register with the platform
        blackberry.bbm.platform.register({
            uuid: "xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx" // Randomly generated UUID
        });
    }
});
```

```
</script>
```




BBM Platform Package

- **showBBMAppOptions:**
 - Brings the BBM options screen for the application to the foreground. Method may only be accessed if status is “allowed” or “blocked” by user. Otherwise, it does nothing
 - Parameter for showBBMAppOptions:
 - **OnComplete (function):** Called when the user exited the BBM option screen

```
<script type="text/javascript">  
blackberry.bbm.platform.showBBMAppOptions(function()  
{  
// User exited the BBM options screen  
});  
</script>
```



BBM Platform Package

– **onaccesschanged:**

- **Called when the access status changes**
- **This callback must be assigned before the call to 'register'**
- **Parameters for onaccesschanged:**
 - **Accessible (boolean): 'true' if allowed, false otherwise**
 - **Status (string): 'allowed' if allowed, 'user' if blocked by user, 'rim' if blocked by RIM, 'itpolicy' if blocked by IT policy, 'resetrequired' if a device reset is required to use the BBM platform, 'nodata' if device is out of data coverage, 'temperror' if blocked because of a temporary error, 'nonuiapp' if blocked because registration was called from a non-UI app**



BBM Platform Package

– onappinvoked:

- Called in certain cases when the application is invoked from within BBM
- This callback must be assigned before the call to 'register'. This is an optional callback
- Parameters for onappinvoked :
 - Reason (string):
 - » 'profilebox' if a users profile box was clicked. The param variable is the `blackberry.bbm.platform.self.profilebox.ProfileBoxItem` that was clicked. '
 - » profileboxtitle' if a users profile box title was clicked. The param variable is undefined.



BBM Platform Package

- » **'personalmessage'** if a users personal message app link was clicked. The param variable is the personal message, excluding the app link.
- » **'chatmessage'** if a users chat message app link was clicked. The Param variable is undefined.
- **Param (void):** This parameter is associated with reason. It may be undefined
- **User**
(blackberry.bbm.platform.users.BBMPlatformUser or blackberry.bbm.platform.self): The user whose personal message/profile box/etc. was clicked. May be undefined.



BBM Platform Package

```
<script type="text/javascript">  
    blackberry.bbm.platform.onappinvoked = function(reason, param, user) {  
        // User clicked a user's profile box  
        if(reason == "profileboxtitle") {  
            // e.g. Show detail for user's whole TPA profile box  
  
            // User clicked a user's profile box item  
        } else if(reason == "profilebox") {  
            // e.g. Show the score and trophy represented by a profile box item  
            var item = param;  
            var score = item.cookie;  
        }  
    }  
</script>
```



Connections Package

- The connections package is used to create, accept and manage connections
- Two types of connections available:
 - Channel connection and Session connection
- Connections are created using the **createConnection** function

```
var type = ... // One of "channel" or "session"  
var conn = blackberry.bbm.platform.io.createConnection(type);  
setConnectionCallbacks(conn, type);
```



Connections Package

- When a user accepts an invitation within BBM, 'onconnectionaccepted' will be invoked with the connection on which the invitation was accepted. The application should assign callbacks to the connection within this method

```
var conn;  
blackberry.bbm.platform.io.onconnectionaccepted = function(type, connection)  
{ // Save the connection and set the callbacks  
    conn = connection;  
    setConnectionCallbacks(conn, type);  
};
```



Connections Package

```
function setConnectionCallbacks(conn, type) {  
  // Channel/Session callbacks  
  conn.onusersinvited = function(users) {  
    // ...  
  };  
  conn.onusersjoined = function(users, type, cookie) {  
    // ...  
  };  
  conn.onuserdeclined = function(user) {  
    // ...  
  };  
  conn.onuserleft = function(user) {  
    // ...  
  };  
  conn.ondata = function(user, data) {  
    // ...  
  };  
};
```



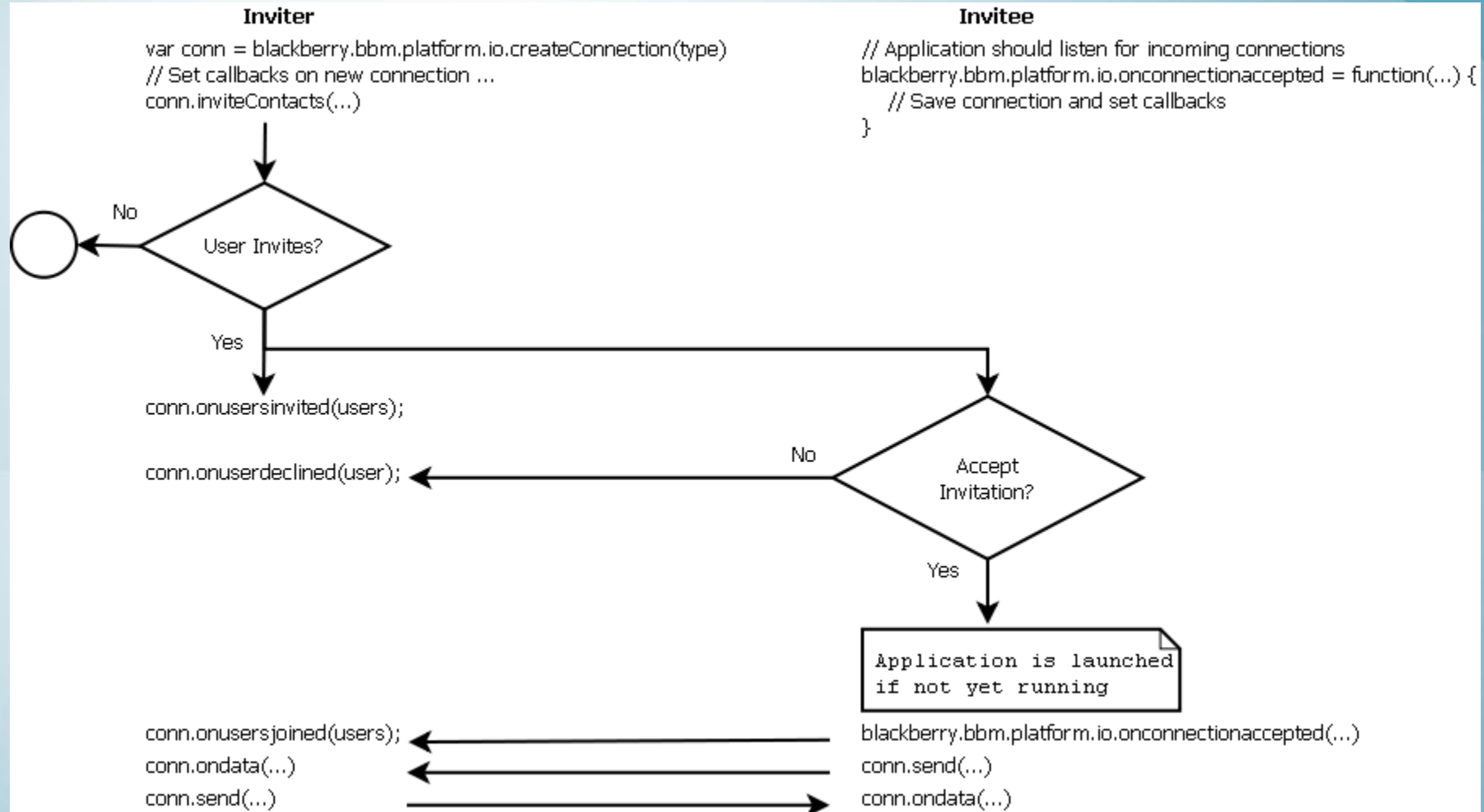

Connections Package

```
// Session callbacks
if(type == "session") {
    conn.onbroadcastdata = function(user, data) {
        // ...
    };
    conn.onusersremoved = function(user, users) {
        // ...
    };
    conn.onended = function(user) {
        // ...
    };
}
};
```

- **These functions are similar to the callback methods in the Java BBM SDK**



Flow Diagram of a Connection





Connections Package

- **Key functions of the Connections package:**
 - **createConnection:**
 - **Creates a connection**
 - **Applications should assign callbacks to the connection after creating it**
 - **Parameters for createConnection:**
 - **type (String): Can either be “channel” or “session” to determine which type of connection to create**



Connections Package

– Host:

- Enables hosting on this connection at which point the user will be prompted whether to allow or deny hosting
- Hosting can be stopped by calling `blackberry.bbm.platform.io.host()`. If hosting is stopped, users will no longer be able to join the connection, but users who have already joined will not be removed. The `hostRequest` property from the Connections package will also be emptied
- It is only possible to host one connection in the application



Connections Package

- **Parameters for Host:**
 - **connection(blackberry.bbm.platform.io.Connection):**
The connection on which to host
 - **onComplete (function with one boolean parameter):**
Invoked when the user approves or denies hosting. Parameter is only true if user is hosting
 - **onRequestRecieved (function with one blackberry.bbm.platform.io.IncomingJoinRequest parameter):** Called when the user receives a join request from a peer. Parameter is the request received



Connections Package

- **onRequestCancelled** (function with two parameters, `blackberry.bbm.platform.io.IncomingJoinRequest` parameter and `String` parameter): Invoked when a peer cancelled a join request. First parameter is the cancelled request. Second parameter is the reason the request was cancelled
- A request can be cancelled for a number of reasons:
 - » 'peercanceled' if the peer cancelled the request without a reason
 - » 'peerleft' if the peer exited the application



Connections Package

– `joinHost`

- Sends a join request to a user hosting a public connection. The host does not need to be a contact
- Parameters for `joinHost`:
 - `hostPIN` (String): The host PIN. Can be obtained by `blackberry.identity.PIN`
 - `hostPPID` (String): The host PPID. Can be obtained by `blackberry.bbm.platform.self.ppid`
 - `onComplete` (function with one `blackberry.bbm.platform.io.IncomingJoinRequest` parameter): Invoked when a user finishes approving the join request. The parameter is the request sent to the host



Connections Package

- **onHostAccepted** (function with two parameters, `blackberry.bbm.platform.io.OutgoingJoinRequest` parameter and `String` parameter): Invoked when the join request is accepted by the host. First parameter is the accepted request. Second parameter is the cookie sent when the host accepted the join request
- **onHostDeclined** (function with two parameters, `blackberry.bbm.platform.io.OutgoingJoinRequest` parameter and `String` parameter): Invoked when the join request is denied by the host. First parameter is the denied request. Second parameter is the reason the request was denied



Connections Package

- A request can be denied for a number of reasons:
 - » 'hostdeclined' if the host declined without a reason
 - » 'hostppidinvalid' if the host PPID is invalid
 - » 'appnotrunning' if the host's application was not running when they received the request
 - » 'connectionnotfound' if the host is not hosting a connection or stopped the connection while the request was pending
 - » 'connectionfull' if the host's connection is full



Connections Package

- **cookie (String):** A custom parameter provided by the application. e.g. Their current game level. Max length of 128 characters
- **Key events of the Connections package:**
 - **onconnectionaccepted**
 - **Invoked when an incoming connection accepted. May be invoked either when an invitation is accepted in a BBM chat window or the host accepts a join request**
 - **This callback is request before setting up either invitation framework. It must be assigned *before* the call to the register function.**
 - **The application should assign callbacks to the connection in this method**



Connections Package

- **Parameters for `onconnectionaccepted`:**
 - **`connectionType (String)`: The type of connection, either 'channel' or 'session'**
 - **`connection` (can either be of type `blackberry.bbm.platform.io.Channel` or `blackberry.bbm.platform.io.Session`): The accepted connection**



Connections Package

– **ondataexpired**

- **Invoked when pending data for an unreachable user has expired**
- **Parameters for ondataexpired:**
 - **user**
(blackberry.bbm.platform.users.BBMPlatformUser):
The unreachable user
 - **data (String []):** **The messages which expired**



Connections Package

– onuserreachable

- Invoked when a contact becomes reachable after a **ContactUnreachableException** was thrown from the **send()** function
- Parameters for **ondataexpired**:
 - **user**
(**blackberry.bbm.platform.users.BBMPlatformUser**):
The user who has become reachable



Current User Package

- The Current User package is used to provide access to information about the current user
- To use all features of the Current User package, you must include '`<feature id="blackberry.bbm.platform" />`' in the configuration document.
- Properties are inherited from the `blackberry.bbm.platform.users.BBMPlatformUser` class



Current User Package

- **Key functions of the Current User package include:**
 - **setDisplayPicture**
 - Sets the user's display picture from a URI which must be fully qualified. Any non-local URIs need to be whitelisted in the configuration document
 - Example URI:
file:///SDCard/BlackBerry/pictures/smiley.jpg or
local:///smiley.jpg
 - Parameters for setDisplayPicture
 - **displayPictureURI (String):** The fully qualified URI



Current User Package

- **onComplete (function with one boolean parameter):**
Invoked when the user has either accepted or denied permission to change the display picture.

```
<script type="text/javascript">  
// Set the user's display picture  
blackberry.bbm.platform.self.setDisplayPicture("local:///smiley.jpg",  
function(accepted) {  
    if(accepted) {  
        // User allowed the change  
    } else {  
        // User denied the change  
    }  
});  
</script>
```




Current User Package

– **setPersonalMessage**

- **Sets the user's personal message**
- **Parameters for setPersonalMessage**
 - **personalMessage (String): The personal message (max length 160 characters)**
 - **onComplete (function with one boolean parameter): Invoked when the user has accepted or denied permission to set a personal message**



Current User Package

– setStatus

- Sets the user's status
- Parameters for setPersonalMessage
 - Status (String): The status, either 'available' or 'busy'
 - Message (Optional String): Optional status message
 - onComplete (function with one boolean parameter):
Invoked when the user has accepted or denied
permission to set their status

```
<script type="text/javascript">  
blackberry.bbm.platform.self.setStatus("busy", "Playing Tic-Tac-Toe!",  
function(accepted) {  
    if(accepted) { // User allowed the change } else { // User denied the change }  
});  
</script>
```



Other Users Package

- The Other Users package is used to interact with and provide support to other BBM users
- To use all features of the Other Users package, you must include '`<feature id="blackberry.bbm.platform" />`' in the configuration document.



Other Users Package

- **Key functions of the Other Users package**
 - **pickUsers**
 - Used to display a contact list picker in order to select contacts
 - *The contact list picker will be displayed for all methods of the Other Users package*
 - The contact list picker can be avoided in the `sendFile` method and the `startBBMChat` method of the Other Users package by including a `BBMPlatformUser` object in the method call



Other Users Package

– **inviteToBBM**

- **Allows the user to invite users to their BBM contact list**
- **A dialog appears allowing the user to select which contacts to invite**
- **Parameters for inviteToBBM:**
 - **onComplete (function with one boolean parameter):**
Invoked when the user has finished selecting contacts to invite
 - **Invitation (Object[]):** **The pin-name pairs of the users to invite to BBM**



Other Users Package

```
<script type="text/javascript">
// Invite to BBM by PIN
var onComplete = function()
{
    // Continue...
}
var users = blackberry.bbm.platform.users;
var invitations = [
    { pin:"2100000A", name:" John Doe" },
    { pin:"2100000B", name:" Jane Doe" }
];
blackberry.bbm.platform.users.inviteToBBM(onComplete, invitations);
</script>
```



Other Users Package

- **inviteToBBMFromConnections**
 - **Allows the user to invite users to their BBM contact list from the connections object being used**
 - **If no connection is provided, users from all connections in the application are shown in a dialog**
 - **Parameters for inviteToBBM:**
 - **onComplete (function with one boolean parameter): Invoked when the user has finished selecting contacts to invite**
 - **connection (blackberry.bbm.platform.io.Connection): Optional. The connection to invite users from**



Other Users Package

– **inviteToDownload**

- **Allows the user to invite contacts to download the application. The command only succeeds if a user without the application is invited**
- **Parameters for inviteToBBM:**
 - **onComplete (function with one String parameter):**
Invoked when the user has finished downloading the application. String parameter represents if the download limit invitation has been reached (max of 10 per minute)



Other Users Package

– pickUsers

- Shows the contact picker allowing the user to select users
- Parameters for pickUsers:
 - options (Object): Object containing contact picker options
 - onComplete (Function with one `blackberry.bbm.platform.users.BBMPlatformUser[]` parameter): Called when the user is finished picking users



Other Users Package

– **sendFile**

- **Sends a file to a contact. If contact is not provided, contact picker will be shown**
- **Parameters for sendFile:**
 - **fileURI (String): The fully qualified path to the file**
 - **comment (String): comment for the file**
 - **onFailure (Function with one String parameter): Invoked if the transfer failed**
 - **contact(blackberry.bbm.platform.users.BBMPlatform User): Optional. If not included, contact picker is shown**



Other Users Package

– **startBBMChat**

- **Starts a chat within BBM. If a user is provided, chat starts immediately, otherwise the contact picker is shown**
- **Parameters for startBBMChat:**
 - **onComplete (Function):** Invoked when the chat has started
 - **message (string):** initial message on the chat screen
 - **users**
(blackberry.bbm.platform.users.BBMPlatformUser[]):
Optional. The users who to chat with



Profile Box Package

- The Profile Box package is used to provide access to the users profile box
- The application can be invoked when a user clicks on the application inside a contacts profile box
- To use all features of the Profile Box package, you must include '`<feature id="blackberry.bbm.platform" />`' in the configuration document.



Profile Box Package

- **Key functions of the Profile Box package:**
 - **addItem**
 - Adds an item to the top of a users profile box
 - You can add text, an icon and a cookie to the item added to the profile box
 - Parameters of addItem:
 - **options (Object):** The options of the item. Contains the text of the item, an optional icon and an optional cookie



Profile Box Package

- **clearItems**
 - Removes all items on a users profile box
- **removeItem**
 - Removes a single item on a users profile box
 - Parameter of removeItem:
 - item
(`blackberry.bbm.platform.self.profilebox.ProfileBoxItem`): The item to remove



Settings Package

- The Settings package reads BBM connected application settings
- The package has two properties: `alwaysAllowPublicConns` and `profileboxEnabled`:
 - `alwaysAllowPublicConns`: A boolean which determines whether or not to show a prompt when hosting a public connection or joining a public connection
 - `profileboxEnabled`: Determines if the application profile box appears on a users profile



Tools

- BlackBerry Java Application Development Tools-
<http://us.blackberry.com/developers/javaappdev/>
- BlackBerry WebWorks SDK -
<http://us.blackberry.com/developers/browserdev/devtoolsdownloads.jsp>
- <http://us.blackberry.com/developers/blackberrymessenger/>
- BBM SDK 1.3 for BlackBerry Java -
<http://swdownloads.blackberry.com/Downloads/contactFormPreload.do?code=DC727151E5D55DDE1E950767CF861CA5&dl=70749A1F8C31FD5DD2FDABA69D48B94A>
- BBM SDK 1.1 for BlackBerry WebWorks-
<http://swdownloads.blackberry.com/Downloads/contactFormPreload.do?code=DC727151E5D55DDE1E950767CF861CA5&dl=BEC7A49FE8DDDD6ED13781CB67B3406D&check1=A>
- List of BBM SDK downloads -
<http://us.blackberry.com/developers/blackberrymessenger/>



References

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<http://us.blackberry.com/developers/blackberrymessenger/>
- *BlackBerry Messenger SDK V1.3 Getting Started Guide*. 31 Jan. 2012.
<http://docs.blackberry.com/en/developers/deliverables/36641/>
- BlackBerry Messenger SDK Development Guide. 31 Jan. 2012.
<http://docs.blackberry.com/en/developers/deliverables/36637/index.jsp?name=Development+Guide+-+BlackBerry+Messenger+SDK1.3&language=English&userType=21&category=BlackBerry+Messenger+Social+Platform+SDK&subCategory=>