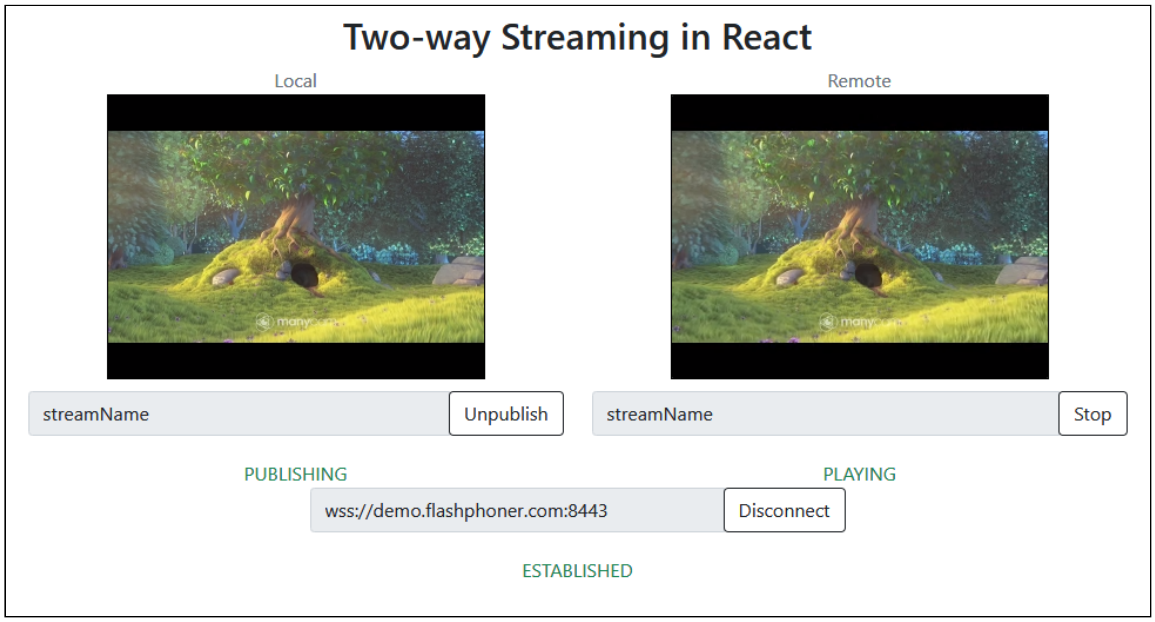
Two Way Streaming React

Overview

Two Way Streaming React application shows how to use Web SDK in React application to publish and play WebRTC stream



The project is available on GitHub and in Web SDK build archives since build 2.0.201 by the following path examples/react/two-way-streaming-react.

Building the project

1. Download WebSDK source code

```
git clone https://github.com/flashphoner/flashphoner_client.git
```

2. Go to the example folder

```
cd flashphoner_client/examples/react/two-way-streaming-react
```

3. Install dependencies

```
npm install
```

4. Build for local testing

```
npm start
```

or to deploy to your web server

```
npm run build
```

Analyzing example code

To analyze the code take version with hash `456b1c7` which is available here

Application code is in TwoWayStreamingApp.js file, additional functions are in fp-utils.js file

1. API import

code

```
import * as FPUtils from './fp-utils.js';
import * as Flashphoner from '@flashphoner/websdk';
```

2. API initialization

`Flashphoner.init()` code

```
componentDidMount() {
 try {
   Flashphoner.init({});
   ...
 }
 catch(e) {
   console.log(e);
   ...
 }
}
```

3. Connecting to the server and receving the event confirming connection is established successfully

`Flashphoner.createSession()`, `SESSION_STATUS.ESTABLISHED` code

```
onConnectClick = () => {
 let app = this;
 let url = this.state.serverUrl;
 let session = this.state.session;
```

```
 if (!session) {
   console.log("Create new session with url " + url);
   app.setState({connectButtonDisabled: true, serverUrlDisabled: true});
   Flashphoner.createSession({urlServer: url}).on(SESSION_STATUS.ESTABLISHED,
(session) => {
     app.setState({sessionStatus: SESSION_STATUS.ESTABLISHED,
sessionStatusClass: 'text-success'});
     app.onConnected(session);
   }).on(SESSION_STATUS.DISCONNECTED, () => {
     ...
   }).on(SESSION_STATUS.FAILED, () => {
     ...
   });
 }
 ...
}
```

4. Stream publishing

`Session.createStream()`, `Stream.publish()` code

```
publishStream = () => {
 let app = this;
 let session = this.state.session;
 let streamName = this.state.publishStreamName;
 let localVideo = this.state.localVideo;

 if(session && localVideo) {
   session.createStream({
     name: streamName,
     display: localVideo,
     cacheLocalResources: true,
     receiveVideo: false,
     receiveAudio: false
   }).on(STREAM_STATUS.PUBLISHING, (stream) => {
     ...
   }).on(STREAM_STATUS.UNPUBLISHED, () => {
     ...
   }).on(STREAM_STATUS.FAILED, () => {
     ...
   }).publish();
 }
}
```

5. Receiving the event confirming the stream is successfully published

`STREAM_STATUS.PUBLISHING` code

```
publishStream = () => {
 let app = this;
 let session = this.state.session;
 let streamName = this.state.publishStreamName;
```

```
  let localVideo = this.state.localVideo;

  if(session && localVideo) {
    session.createStream({
      ...
    }).on(STREAM_STATUS.PUBLISHING, (stream) => {
      app.setState({publishStatus: STREAM_STATUS.PUBLISHING,
publishStatusClass: 'text-success'});
      app.onPublishing(stream);
    }).on(STREAM_STATUS.UNPUBLISHED, () => {
      ...
    }).on(STREAM_STATUS.FAILED, () => {
      ...
    }).publish();
  }
}
```

6. Stream playback with picture resizing to div size

`Session.createStream()`, `Stream.play()`, `STREAM_STATUS.PENDING`, `FPUtils.resizeVideo()` code

```
playStream = () => {
  let app = this;
  let session = this.state.session;
  let streamName = this.state.playStreamName;
  let remoteVideo = this.state.remoteVideo;

  if(session && remoteVideo) {
    session.createStream({
      name: streamName,
      display: remoteVideo
    }).on(STREAM_STATUS.PENDING, (stream) => {
      let video = document.getElementById(stream.id());
      if (!video.hasListeners) {
          video.hasListeners = true;
          video.addEventListener('resize', (event) => {
              FPUtils.resizeVideo(event.target);
          });
      }
    }).on(STREAM_STATUS.PLAYING, (stream) => {
      ...
    }).on(STREAM_STATUS.STOPPED, () => {
      ...
    }).on(STREAM_STATUS.FAILED, () => {
      ...
    }).play();
  }
}
```

7. Receiving the event confirming successful playback

`STREAM_STATUS.PLAYING` code

```
playStream = () => {
 let app = this;
 let session = this.state.session;
 let streamName = this.state.playStreamName;
 let remoteVideo = this.state.remoteVideo;

 if(session && remoteVideo) {
   session.createStream({
     name: streamName,
     display: remoteVideo
   }).on(STREAM_STATUS.PENDING, (stream) => {
     ...
   }).on(STREAM_STATUS.PLAYING, (stream) => {
     app.setState({playStatus: STREAM_STATUS.PLAYING, playStatusClass: 'text-
success'});
     app.onPlaying(stream);
   }).on(STREAM_STATUS.STOPPED, () => {
     ...
   }).on(STREAM_STATUS.FAILED, () => {
     ...
   }).play();
 }
}
```

8. Playback stopping

`Stream.stop()` code

```
onPlayClick = () => {
 let app = this;
 let stream = this.state.playStream;
 ...

 if (!stream) {
   ...
   app.playStream();
 } else {
   app.setState({playButtonDisabled: true});
   stream.stop();
 }
}
```

9. Receiving the event confirming playback is stopped

`STREAM_STATUS.STOPPED` code

```
playStream = () => {
 let app = this;
 let session = this.state.session;
 let streamName = this.state.playStreamName;
 let remoteVideo = this.state.remoteVideo;

 if(session && remoteVideo) {
```

```
    session.createStream({
      name: streamName,
      display: remoteVideo
    }).on(STREAM_STATUS.PENDING, (stream) => {
      ...
    }).on(STREAM_STATUS.PLAYING, (stream) => {
      ...
    }).on(STREAM_STATUS.STOPPED, () => {
      app.setState({playStatus: STREAM_STATUS.STOPPED, playStatusClass: 'text-
success'});
      app.onStopped();
    }).on(STREAM_STATUS.FAILED, () => {
      ...
    }).play();
  }
}
```

10. Publishing stopping

`Stream.stop()` code

```
onPublishClick = () => {
 let app = this;
 let stream = this.state.publishStream;
 ...
 if (!stream) {
   ...
   app.publishStream();
 } else {
   app.setState({publishButtonDisabled: true});
   stream.stop();
 }
}
```

11. Receiving the event confirming the stream is unpublished

`STREAM_STATUS.UNPUBLISHED` code

```
publishStream = () => {
 let app = this;
 let session = this.state.session;
 let streamName = this.state.publishStreamName;
 let localVideo = this.state.localVideo;

 if(session && localVideo) {
   session.createStream({
     ...
   }).on(STREAM_STATUS.PUBLISHING, (stream) => {
     ...
   }).on(STREAM_STATUS.UNPUBLISHED, () => {
     app.setState({publishStatus: STREAM_STATUS.UNPUBLISHED,
publishStatusClass: 'text-success'});
     app.onUnpublished();
```

```
    }).on(STREAM_STATUS.FAILED, () => {
      ...
    }).publish();
  }
}
```

12. Connection closing

`Session.disconnect()` code

```
onConnectClick = () => {
 let app = this;
 let url = this.state.serverUrl;
 let session = this.state.session;

 if (!session) {
   ...
 } else {
   app.setState({connectButtonDisabled: true});
   session.disconnect();
 }
}
```

13. Receiving the event confirming the connection is closed

`SESSION_STATUS.DISCONNECTED` code

```
onConnectClick = () => {
 let app = this;
 let url = this.state.serverUrl;
 let session = this.state.session;

 if (!session) {
   ...
   Flashphoner.createSession({urlServer: url}).on(SESSION_STATUS.ESTABLISHED,
(session) => {
     ...
   }).on(SESSION_STATUS.DISCONNECTED, () => {
     app.setState({sessionStatus: SESSION_STATUS.DISCONNECTED,
sessionStatusClass: 'text-success'});
     app.onDisconnected();
   }).on(SESSION_STATUS.FAILED, () => {
     ...
   });
   ...
 }
}
```