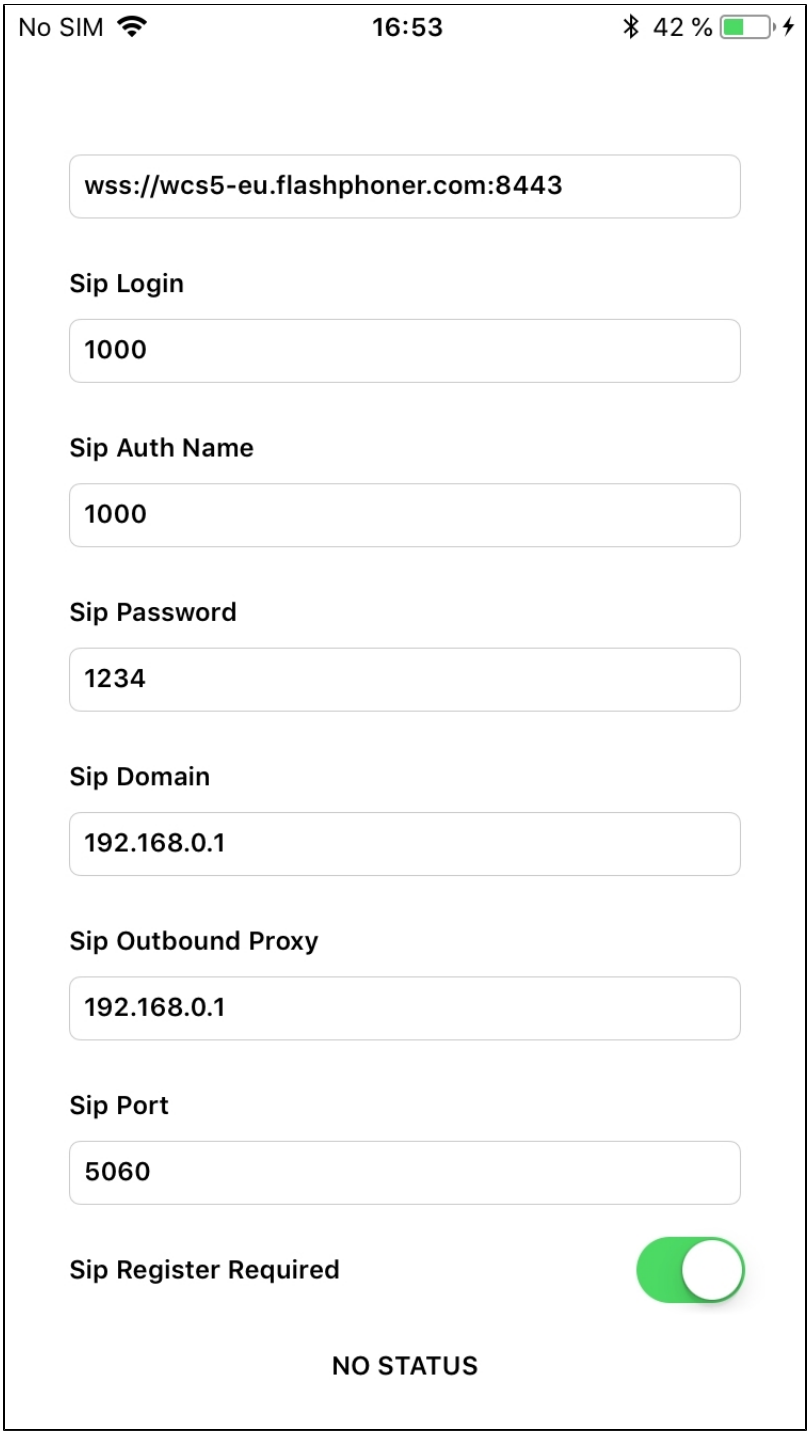
iOS Phone Video

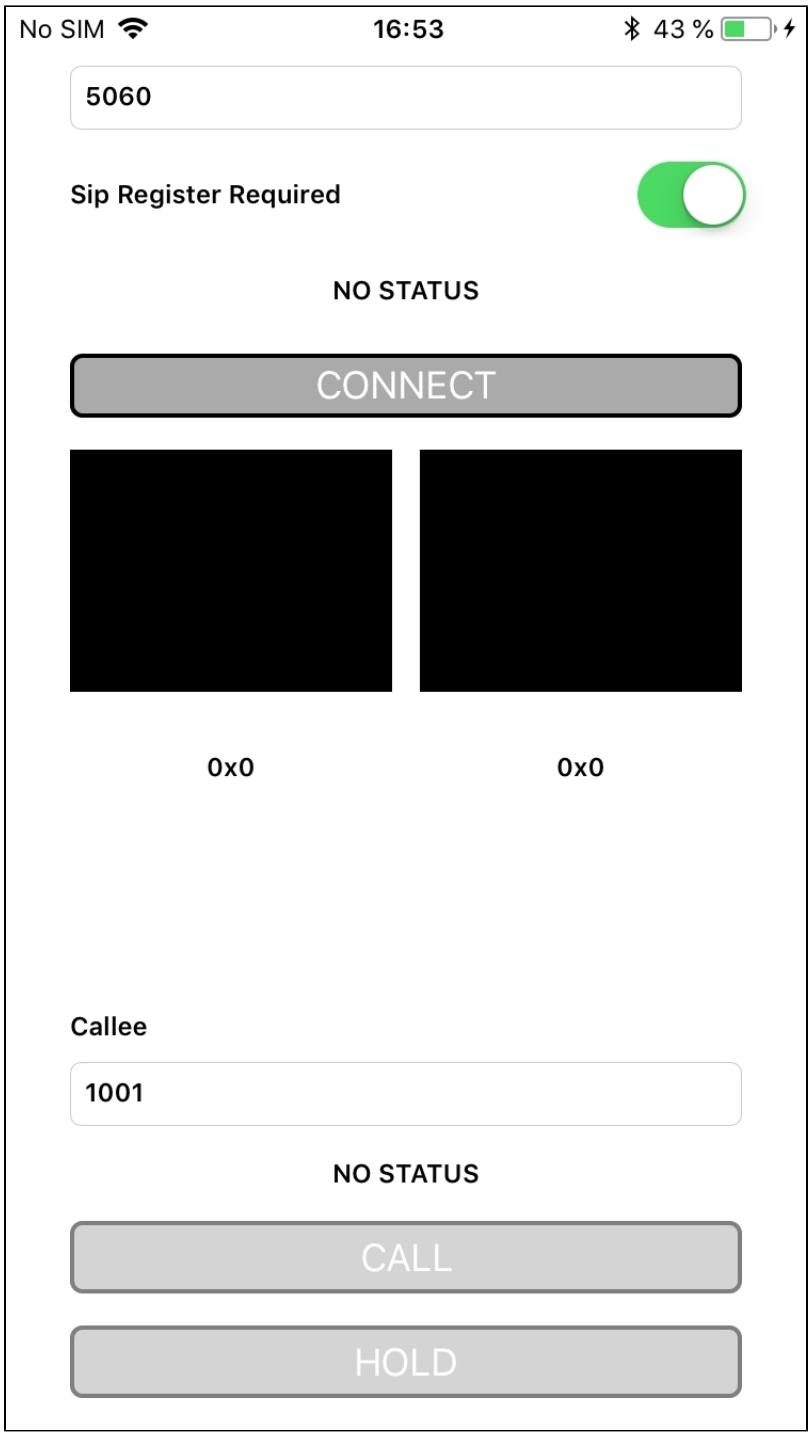
Example of iOS application for video calls

On the screenshot below the example is displayed before a call will be established.

The interface of he application is the same as in the examplePhone, except that two videos are played

- left - video from the camera of this user
- right - video from the other call party





Analyzing the code of the examle

To analyze the code, let's takePhoneMinVideo example, which can be downloaded with corresponding build2.5.2.

View class for the main view of the application: ViewController (header fileViewController.h; implementation fileViewController.m).

1. Import of API.code

```
#import <FPWCSApi2/FPWCSApi2.h>
```

2. Connection to the server.

FPWCSApi2 createSession, FPWCSApi2Session connectcode

FPWCSApi2SessionOptions object with the following parameters is passed to createSession() method

- URL of WCS server
- SIP parameters to make outgoing call and to receive incoming calls
- appKey of internal server-side application(defaultApp)

```
FPWCSApi2SessionOptions *options = [[FPWCSApi2SessionOptions alloc] init];
options.urlServer = _connectUrl.text;
options.sipRegisterRequired = _sipRegRequired.control.isOn;
options.sipLogin = _sipLogin.input.text;
options.sipAuthenticationName = _sipAuthName.input.text;
options.sipPassword = _sipPassword.input.text;
options.sipDomain = _sipDomain.input.text;
options.sipOutboundProxy = _sipOutboundProxy.input.text;
options.sipPort = [NSNumber numberWithInteger: [_sipPort.input.text integerValue]];
options.appKey = @"defaultApp";
NSError *error;
...
session = [FPWCSApi2 createSession:options error:&error];
...
[session connect];
```

3. Outgoing call.

FPWCSApi2Session createCall, FPWCSApi2Call callcode

The next parameters are passed to createCall() method:

- callee SIP username
- view to display local video stream preview
- view to display remote video stream from callee
- additional SIP INVITE parameters from string set by user

```
- (FPWCSApi2Call *)call {
    FPWCSApi2Session *session = [FPWCSApi2 getSessions][0];
    FPWCSApi2CallOptions *options = [[FPWCSApi2CallOptions alloc] init];
    options.callee = _callee.input.text;
    options.localDisplay = _videoView.local;
    options.remoteDisplay = _videoView.remote;
    options.localConstraints = [[FPWCSApi2MediaConstraints alloc] initWithAudio:YES video:YES];
    options.remoteConstraints = [[FPWCSApi2MediaConstraints alloc] initWithAudio:YES video:YES];
    NSError *error;
    call = [session createCall:options error:&error];
    ...
    [call call];
    return call;
}
```

4.Receiving the event on incoming call

FPWCSApi2Session onIncomingCallCallbackcode

```
[session onIncomingCallCallback:^(FPWCSApi2Call *rCall) {
    call = rCall;

    [call on:kFPWCSCallStatusBusy callback:^(FPWCSApi2Call *call){
        [self changeCallStatus:call];
        [self toCallState];
    }];

    [call on:kFPWCSCallStatusFailed callback:^(FPWCSApi2Call *call){
        [self changeCallStatus:call];
        [self toCallState];
    }];

    [call on:kFPWCSCallStatusRing callback:^(FPWCSApi2Call *call){
        [self changeCallStatus:call];
        [self toHangupState];
    }];

    [call on:kFPWCSCallStatusHold callback:^(FPWCSApi2Call *call){
        [self changeCallStatus:call];
        [self changeViewState:_holdButton enabled:YES];
    }];

    [call on:kFPWCSCallStatusEstablished callback:^(FPWCSApi2Call *call){
        [self changeCallStatus:call];
        [self toHangupState];
        [self changeViewState:_holdButton enabled:YES];
    }];

    [call on:kFPWCSCallStatusFinish callback:^(FPWCSApi2Call *call){
        [self changeCallStatus:call];
        [self toCallState];
        [self dismissViewControllerAnimated:YES completion:nil];
    }];
    ...
}];
```

5. Answering incoming call.

FPWCSApi2Call answercode

```
alert = [UIAlertController
                            alertControllerWithTitle:[NSString stringWithFormat:@"Incoming call from '%@'",
[rCall getCallee]]
                            message:error.localizedDescription
                            preferredStyle:UIAlertControllerStyleAlert];

UIAlertAction* answerButton = [UIAlertAction
                              actionWithTitle:@"Answer"
                              style:UIAlertActionStyleDefault
                              handler:^(UIAlertAction * action) {
                                  [call getLocalConstraints].video = [[FPWCSApi2VideoConstraints alloc] init];
                                  [call setLocalDisplay:_videoView.local];
                                  [call setRemoteDisplay:_videoView.remote];
                                  [call answer];
                              }];

[alert addAction:answerButton];
UIAlertAction* hangupButton = [UIAlertAction
                              actionWithTitle:@"Hangup"
                              style:UIAlertActionStyleDefault
                              handler:^(UIAlertAction * action) {
                                  [call hangup];
                              }];

[alert addAction:hangupButton];
[self presentViewController:alert animated:YES completion:nil];
```

6. Call hold and retrieve.

FPWCSApi2Call hold, unholdcode

```
- (void)holdButton:(UIButton *)button {
    [self changeViewState:button enabled:NO];
    if ([button.titleLabel.text isEqualToString:@"UNHOLD"]) {
        if (call) {
            [call unhold];
            [_holdButton setTitle:@"HOLD" forState:UIControlStateNormal];
        }
    } else {
        if (call) {
            [call hold];
            [_holdButton setTitle:@"UNHOLD" forState:UIControlStateNormal];
        }
    }
}
```

7. Outgoing call hangup.

FPWCSApi2Call hangupcode

```
- (void)callButton:(UIButton *)button {
    [self changeViewState:button enabled:NO];
    if ([button.titleLabel.text isEqualToString:@"HANGUP"]) {
        if ([FPWCSApi2 getSessions].count) {
            [call hangup];
        } else {
            [self toCallState];
        }
        ...
    }
}
```

8.Incoming call hangup.

FPWCSApi2Call hangupcode

```
UIAlertAction* hangupButton = [UIAlertAction
                               actionWithTitle:@"Hangup"
                               style:UIAlertActionStyleDefault
                               handler:^(UIAlertAction * action) {
                                   [call hangup];
                               }];

[alert addAction:hangupButton];
```

9. Disconnection.

FPWCSApi2Session disconnectcode

```
- (void)connectButton:(UIButton *)button {
    [self changeViewState:button enabled:NO];
    if ([button.titleLabel.text isEqualToString:@"DISCONNECT"]) {
        if ([FPWCSApi2 getSessions].count) {
            FPWCSApi2Session *session = [FPWCSApi2 getSessions][0];
            NSLog(@"Disconnect session with server %@", [session getServerUrl]);
            [session disconnect];
        } else {
            NSLog(@"Nothing to disconnect");
            [self onDisconnected];
        }
        ...
    }
}
```