

Plugin architecture for FOSS virtual classrooms: Unleashing innovation by teachers and learners with the **BigBlueButton 3.0 plugin API and SDK**

Fred Dixon, co-founder BigBlueButton Inc.

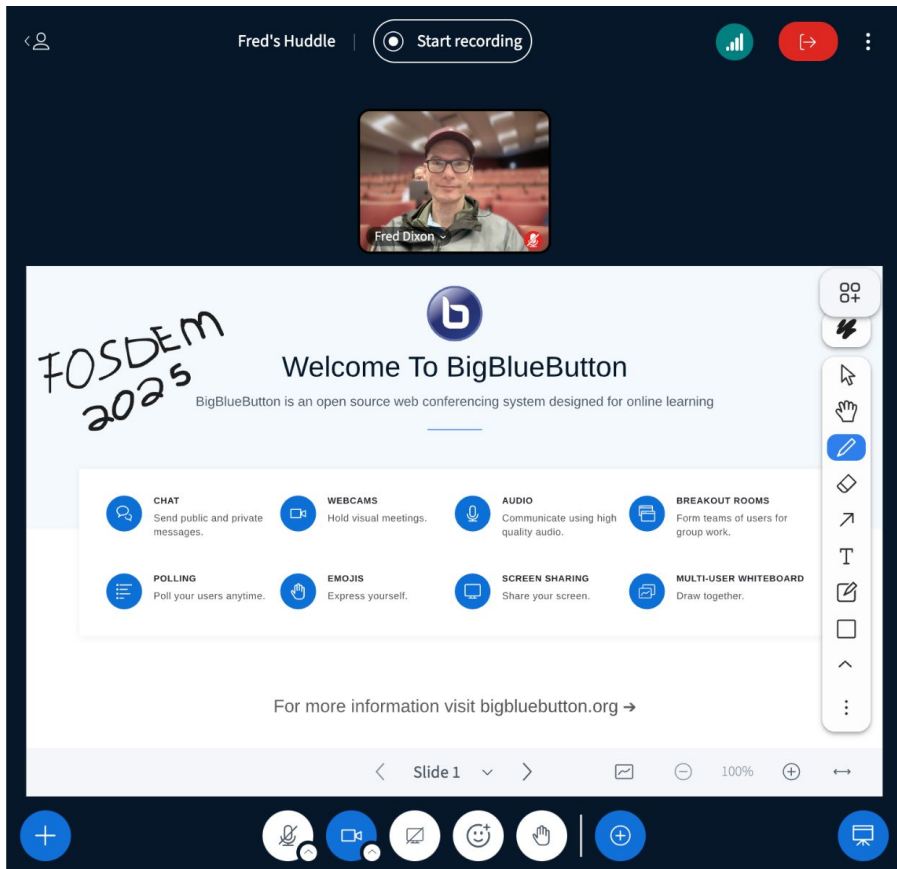
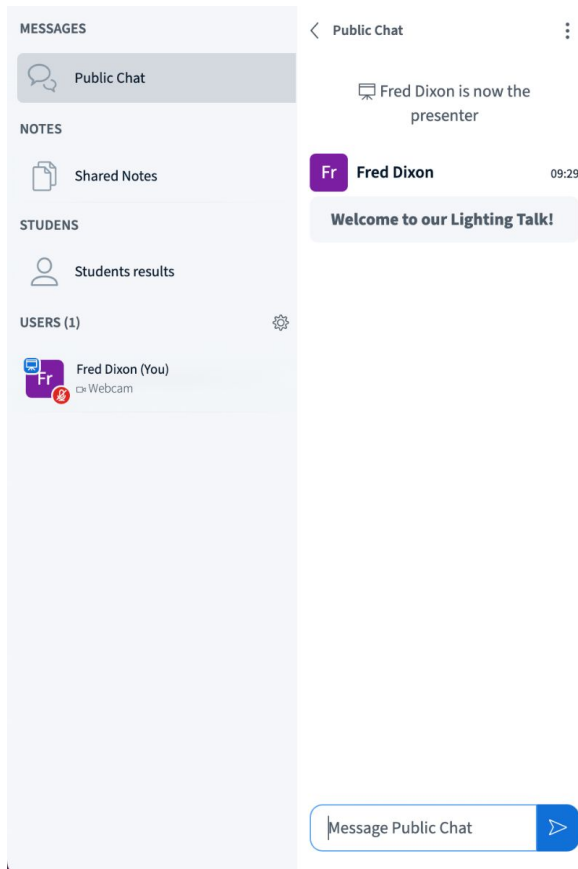
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Founded in 2008 – 8.7k stars on GitHub

What is BigBlueButton

(1/3)

As described by the community
sometimes:

BigBlueButton is the free, open
source equivalent of Zoom



What is BigBlueButton

(2/3)

As described by the community
sometimes:

~~BigBlueButton is the free, open
source equivalent of Zoom~~

Zoom is the paid, closed
source equivalent of
BigBlueButton

(we came first!)



What is BigBlueButton

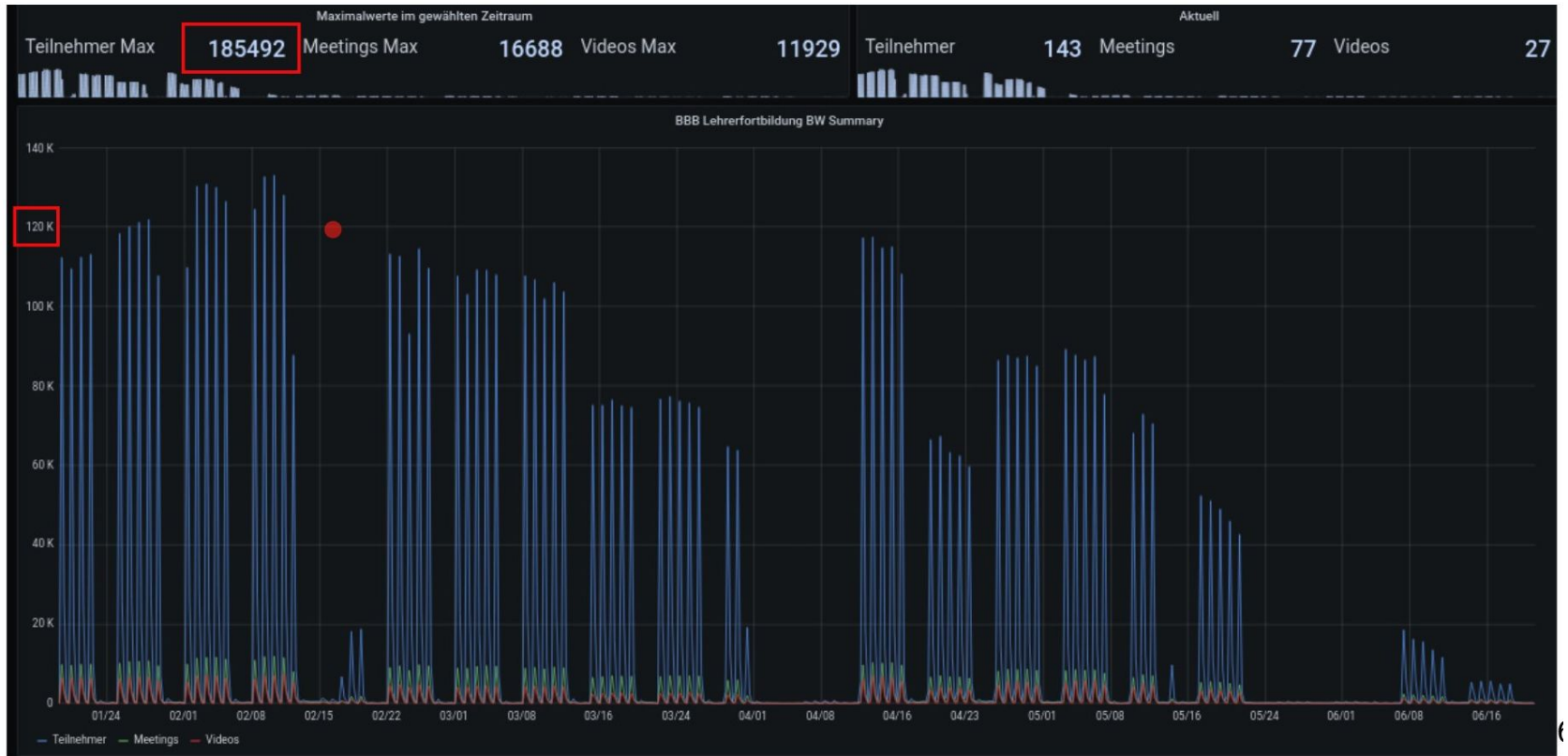
(3/3)

BigBlueButton is a **virtual classroom** that provides built-in tools for **active learning** and **live analytics** to ensure **every student learns**.

BigBlueButton is FOSS.

It's built-into Moodle, Canvas, Chamilio, Open Social, and many other platforms.





4,000 BigBlueButton Servers – 2000 (Baden-Württemberg)

Success as a product!



Solutions ▾

Customers ▾

Community

At

● Certified Integrations / BigBlueButton

BigBlueButton

A virtual classroom solution for collaborative learning

BigBlueButton is an open source virtual classroom solution for online learning that provides real-time sharing of audio, video, slides, whiteboard, chat and screen. It also allows participants to join the conferences with their webcams and invite guest speakers.

Find out more →



**Product → Platform
?**

We want to be a
platform as well!

But ...

Extending BigBlueButton in 2.7

1. **Modify** the source code
2. **Build** custom packages
3. **Deploy** a server with these custom packages
4. **Re-apply** changes for every new BigBlueButton release



BigBlueButton 3.0



Extending BigBlueButton in 3.0

Plugin architecture!

1. **Create** a plugin (we have a SDK).
2. **Host** it locally or externally.
3. **Enable** the plugin via the session creation API call.
4. **Developer happiness ensues**



What can a client plugin do?

Access real-time session data via predefined methods or **custom GraphQL queries**.

Enable real-time user interactions – exchange information dynamically within a session.

Query and control the UI – check its state and perform actions on behalf of users.

Customize chat rendering to match your needs.

And much more!



Plugins that will ship in BigBlueButton 3.0

1. Pick Random User – Select random user is now a plugin

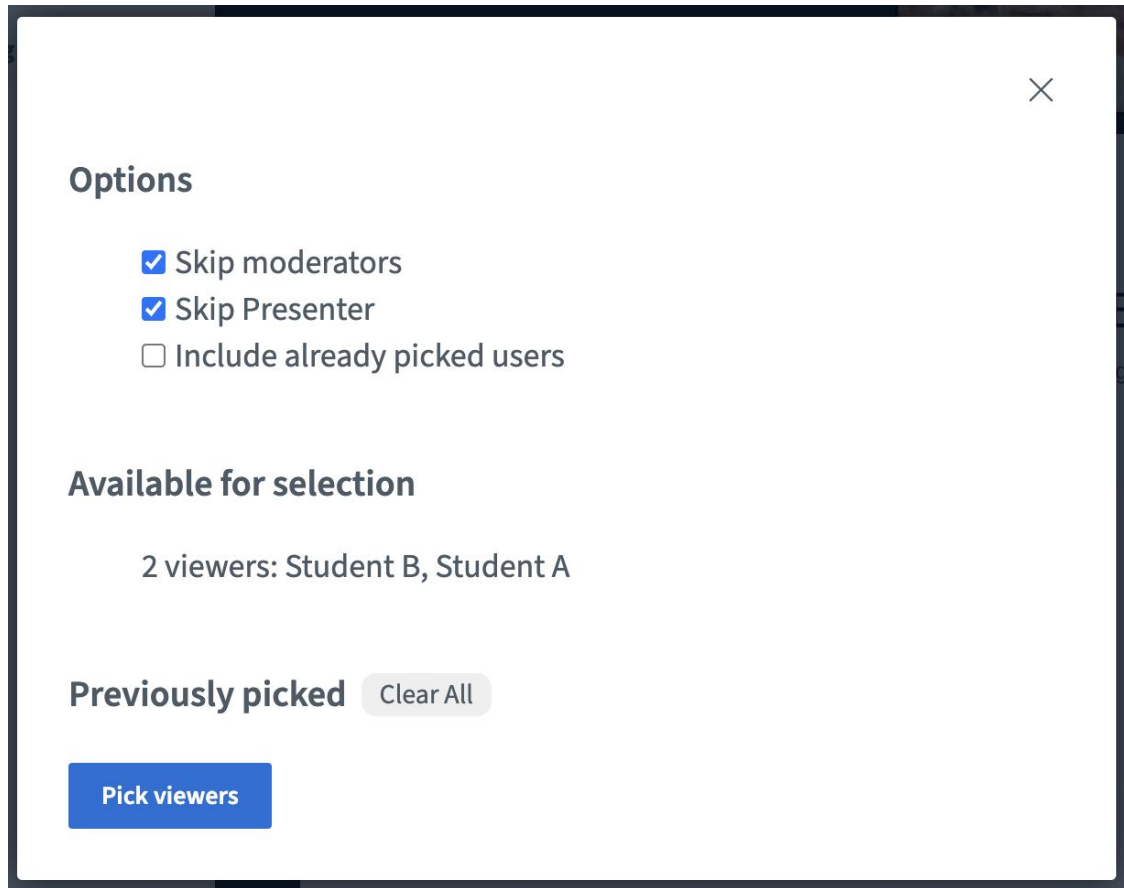
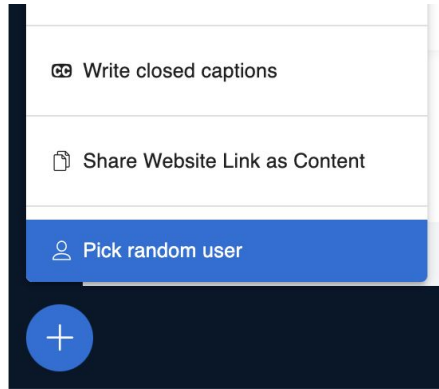
2. Write closed captions - Enable a stenographer to add live captions

3. Share Website link as Content - Have users all view the same content within main area

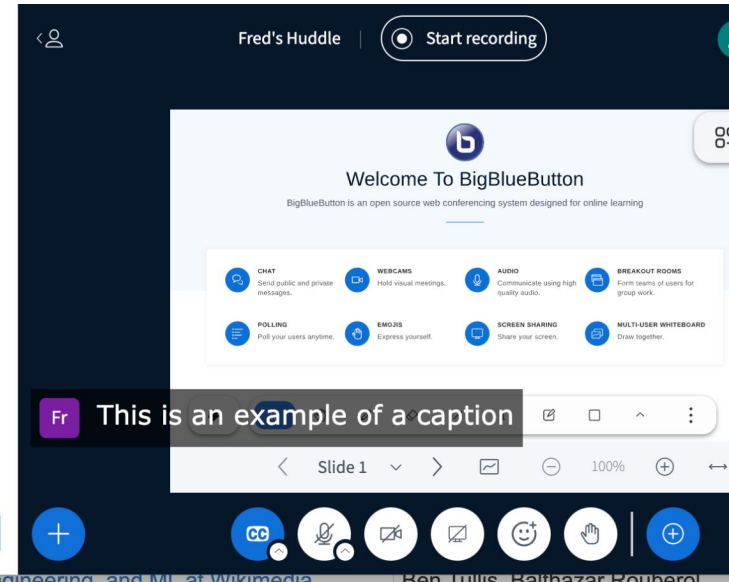
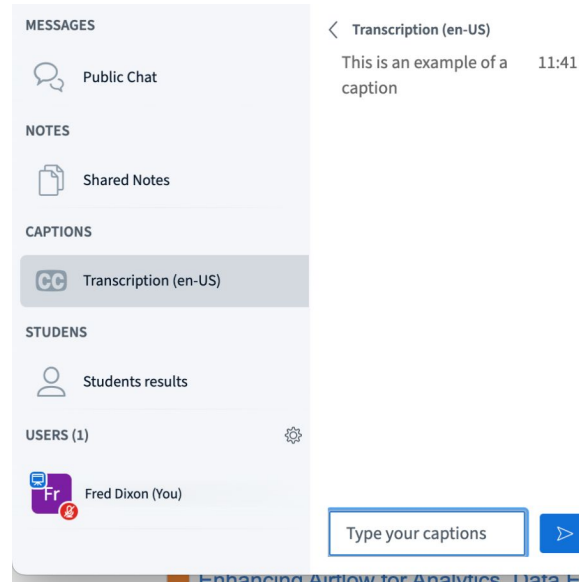
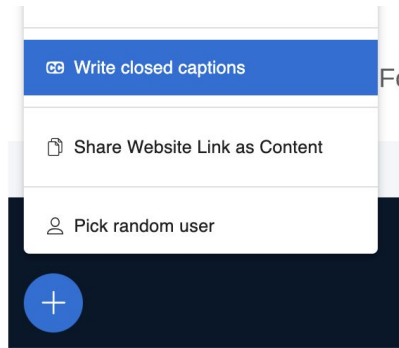
4. Code Highlight - Highlight pasted code in chat

more ...





#1 - Pick Random User



#2 - Write closed captions

Write closed captions

Share Website Link as Content

Pick random user

+

droplet-8918.meetbbb.com/html5client/?sessionToken=rtlbufqczhgzcuf

MESSAGES

Public Chat

NOTES

Shared Notes

CAPTIONS

Transcription (en-US)

STUDENTS

Students results

USERS (1)

Fred Dixon (You)

Transcription (en-US)

This is an example of a caption 11:41

Type your captions

Fred's Huddle

Start recording

BigBlueButton

Virtual Classroom Software

BigBlueButton is a purpose-built virtual classroom that empowers teachers to teach and learners to learn.

Learn About BigBlueButton

Get Started

The BigBlueButton Difference

Designed around real-world students, teachers and schools

+

#3 – Share Website Link as Content

Potential examples

AI-Powered Transcription – Generate real-time captions and meeting summaries.

CRM & LMS Integration – Pull up customer details from CRM platforms during meetings.

Telemedicine & Health – Enhance virtual consultations with secure document sharing and appointment scheduling.

Educational – Integrate educational apps into BigBlueButton (we are working on H5P)



How can you build a plugin?

- 1 **Clone** the SDK repository.
- 2 **Select** a sample plugin as a starting point.
- 3 **Customize** the sample code to fit your needs.
- 4 **Build** the plugin using the provided command.
- 5 **Host** the generated JavaScript bundle and manifest file on an **HTTPS server**.
- 6 **Enable** the plugin by adding the **manifest file URL** in the meeting creation API call.

= 🚀 *Your plugin is now live!*



Your main branch isn't protected

Protect this branch from force pushing or deletion, or require status checks before merging. [View documentation.](#) **Protect this branch**

main 4 Branches 30 Tags Go to file Code

TiagoJacobs Bump version to 0.0.71 ✓ 08bc4e6 · 4 days ago 235 Commits

.github	[add-ci] changes in the issue description and ...	8 months ago
samples	Bump version to 0.0.71	4 days ago
scripts	Add push to bump	10 months ago
src	Merge pull request #139 from GuiLeme/self-vi...	5 days ago
.eslintignore	fix: fix lint errors and some sample behaviors ...	10 months ago

About

BigBlueButton Plugin SDK

- Readme
- LGPL-3.0 license
- Activity
- Custom properties
- 8 stars
- 9 watching
- 7 forks
- Report repository

Releases

- 30 tags
- [Create a new release](#)

Plugin SDK Repository

SDK provides lots of starter examples

 sample-action-button-dropdown-plugin

 sample-actions-bar-plugin

 sample-audio-settings-dropdown-plugin

 sample-camera-settings-dropdown-plugin

 sample-custom-subscription-hook

 sample-data-channel-plugin

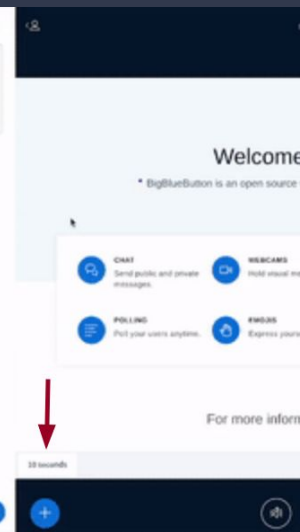
 sample-dom-element-manipulation

 sample-floating-window-plugin

 sample-generic-content-sidekick-plugin

 sample-nav-bar-plugin

Show me the code



```
1 import * as React from 'react';
2 import { useEffect } from 'react';
3
4 import { BbbPluginSdk, PluginApi, PresentationToolbarButton } from 'bigbluebutton';
5 import { SamplePresentationToolbarPluginProps } from './types';
6
7 function SamplePresentationToolbarPlugin(
8   { pluginUuid: uuid }: SamplePresentationToolbarPluginProps,
9 ) : React.ReactNode {
10   BbbPluginSdk.initialize(uuid);
11   const pluginApi: PluginApi = BbbPluginSdk.getPluginApi(uuid);
12
13   useEffect(() => {
14     // Add a button
15     pluginApi.setPresentationToolbarItems([
16       new PresentationToolbarButton({
17         label: '10 seconds',
18         tooltip: 'this is a button injected by plugin',
19         style: {},
20         onClick: () => {
21           // eslint-disable-next-line no-alert
22           alert('You clicked!');
23         },
24       }),
25     ]);
26
27     // Remove button after 10s
28     setTimeout( () => {
29       pluginApi.setPresentationToolbarItems([
30         ], 10000);
31     }, [1]);
32
33     return null;
34   }
35
36 export default SamplePresentationToolbarPlugin;
```



Teachers ▾ Schools ▾



Resources ▾ Developers

[Demo >](#)

BigBlueButton Setup

Get help with installation, setup and configuration of a BigBlueButton server.

[Get Help >](#)

BigBlueButton Users

Get help and give feedback about using BigBlueButton.

[Get Help >](#)

BigBlueButton Developers

Ask questions and share experiences with other BigBlueButton developers.

[Get Help >](#)

BigBlueButton Greenlight

This mailing list is for setup, configuration, and development questions related to [Greenlight](#), the front-end for BigBlueButton.

[Get Help >](#)

When applying to any of the above mailing lists, be sure to indicate a reason for applying (even the word 'Hi' is fine). This way, the moderators can distinguish your application to join the mailing list from that of a SPAM bot.

Join our community!

Summary

BigBlueButton 3.0 offers a new **plugin architecture** for easily extending its capabilities.

You can build upon us!

Integrate BigBlueButton into your FOSS project and build upon our 16+ years experience.



BigblueButton 3.0 Plugins



FOSS FTW!

[https://github.com/bigbluebutton
/bigbluebutton-html-plugin-sdk](https://github.com/bigbluebutton/bigbluebutton-html-plugin-sdk)

<https://bigbluebutton.org/>

