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

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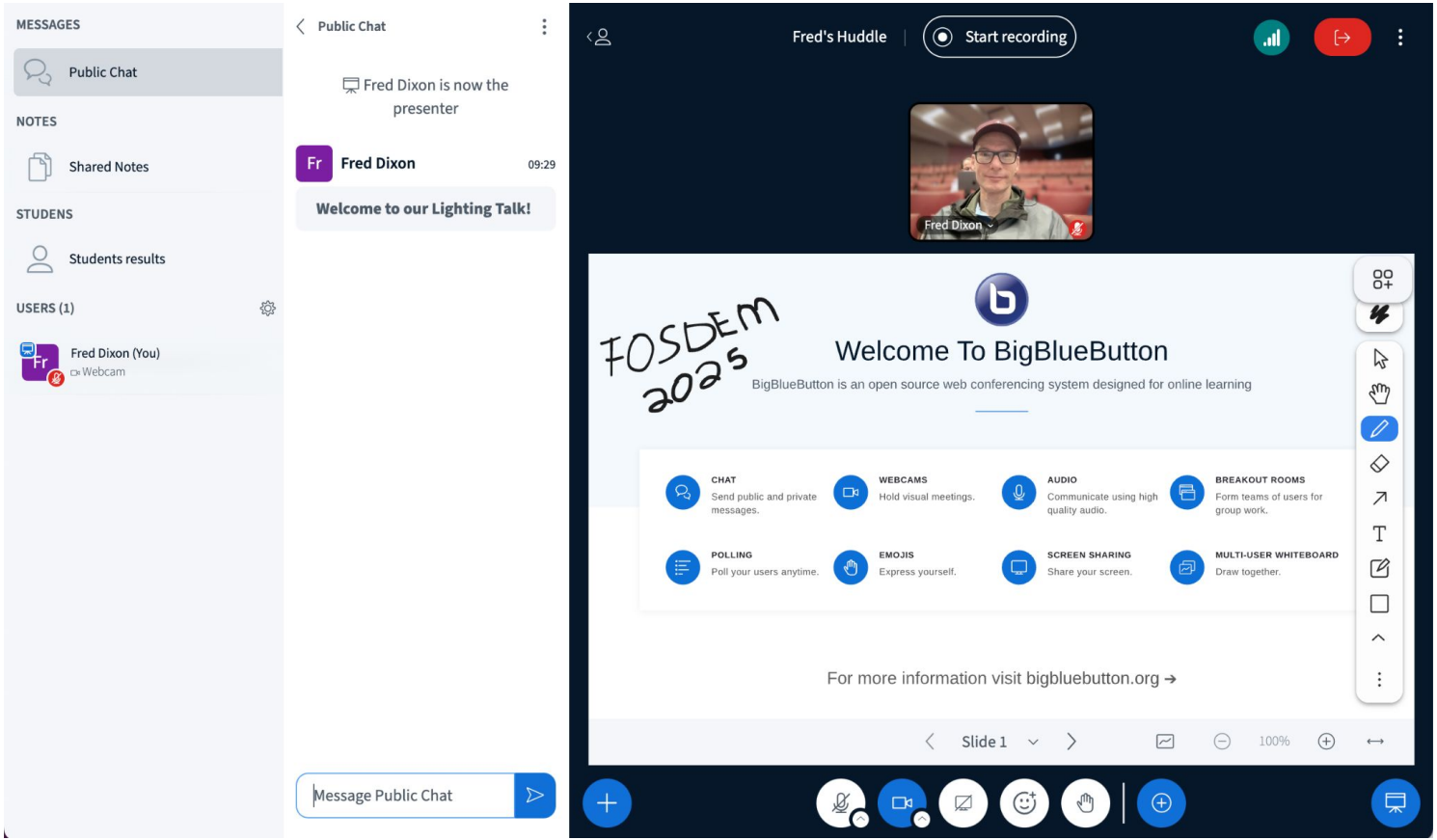


Founded in 2008 - 8.7k stars on GitHub

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!)

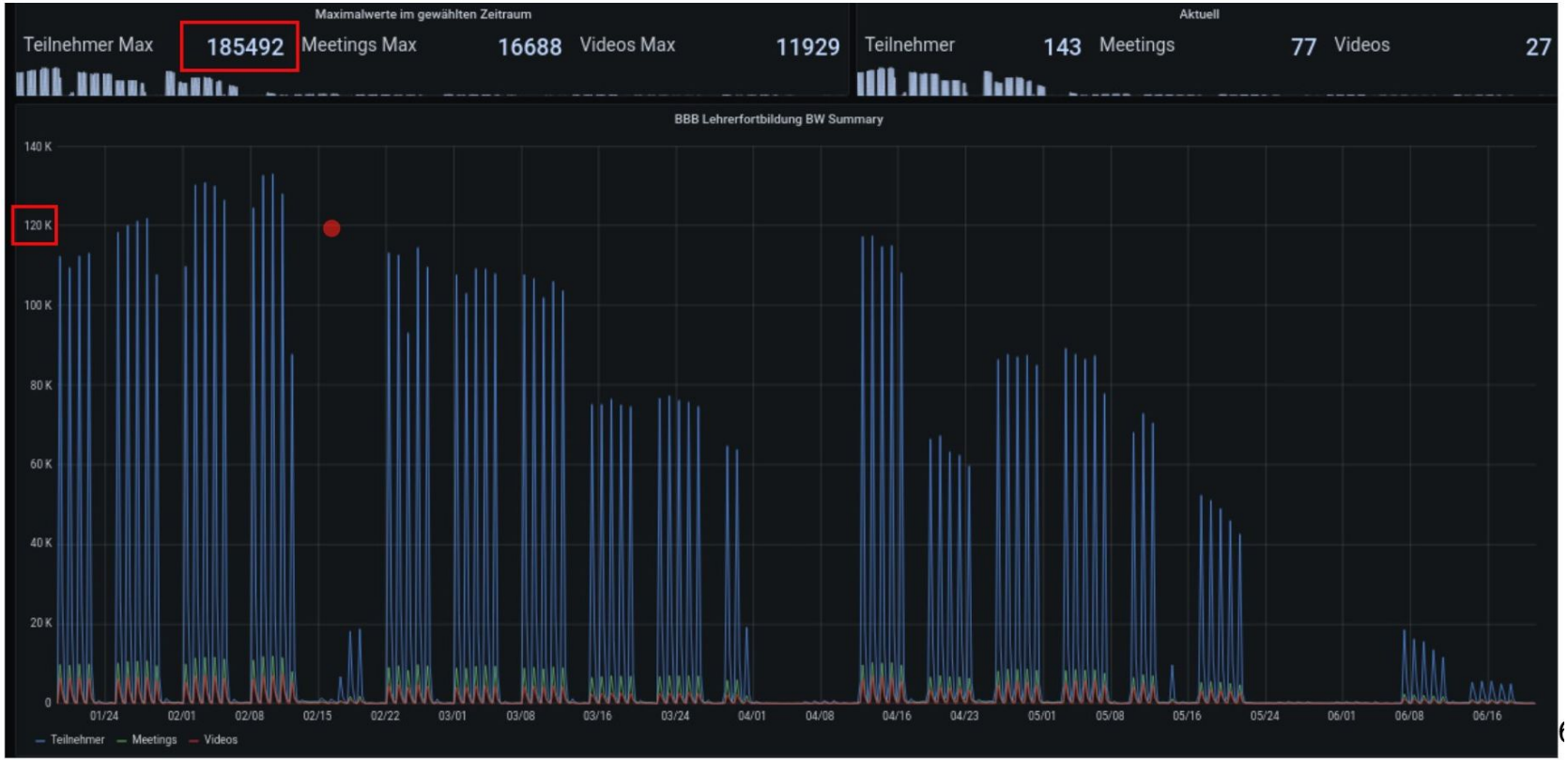
What is BigBlueButton

(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!

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

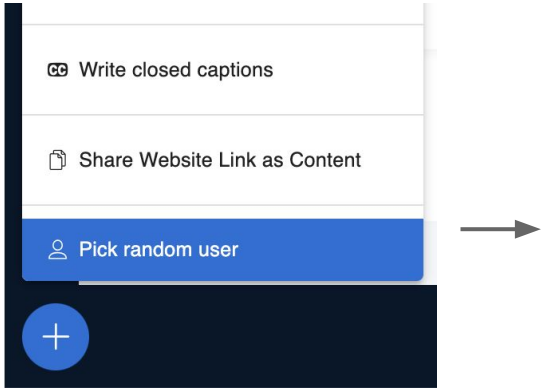
1. **Pick Random User** – Select random user is now a plugin

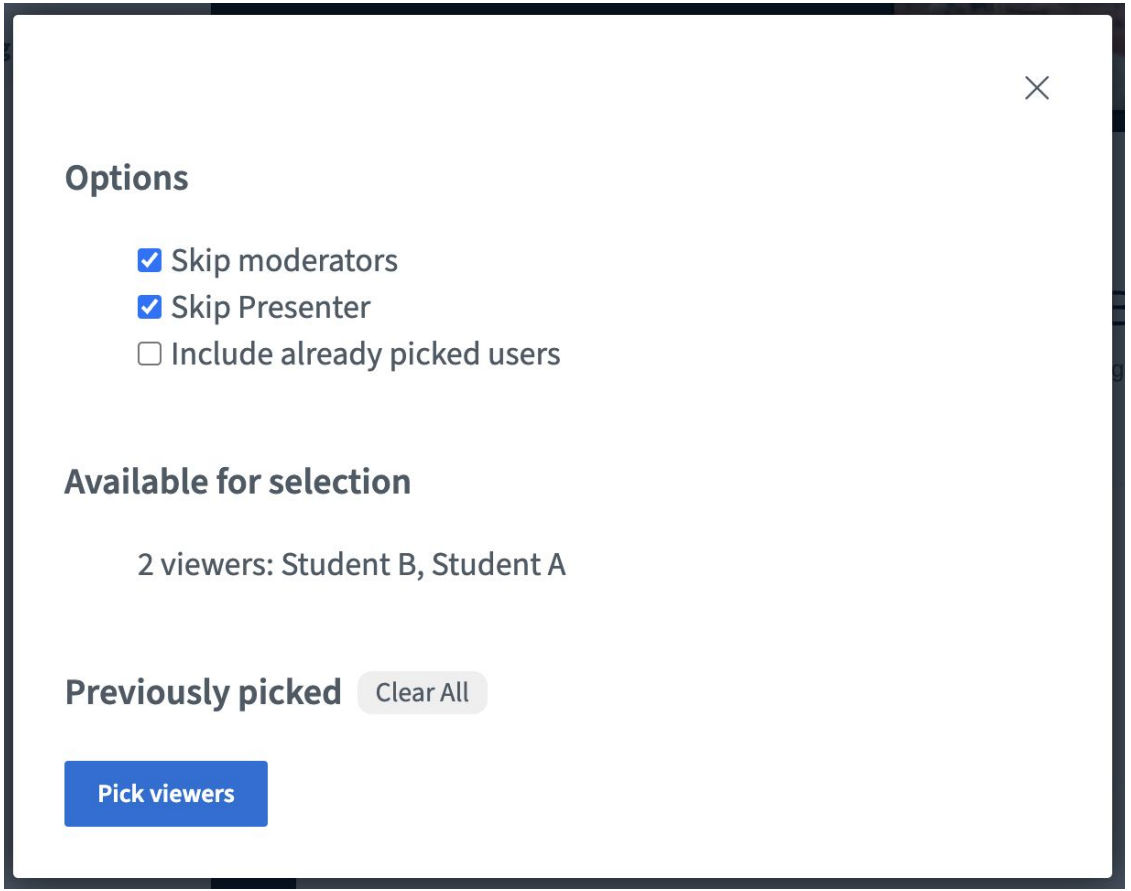
2. **Write closed captions** - Enable a stenographer to add live captions

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

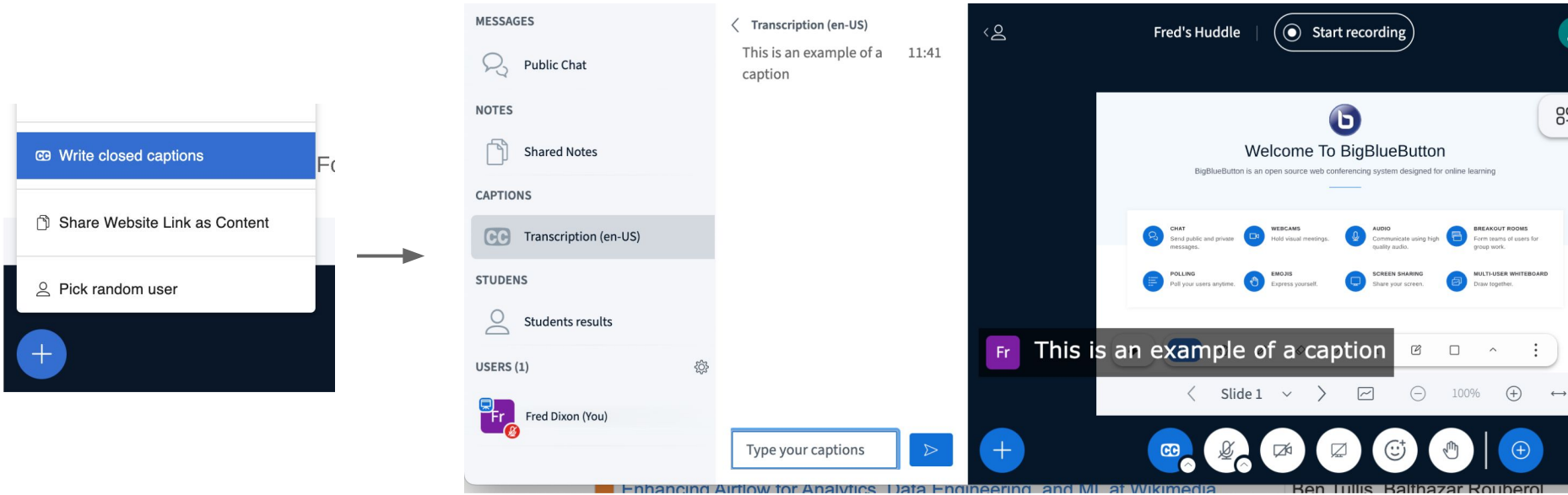
4. **Code Highlight** - Highlight pasted code in chat

more ...

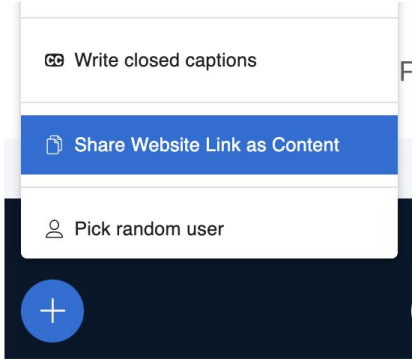


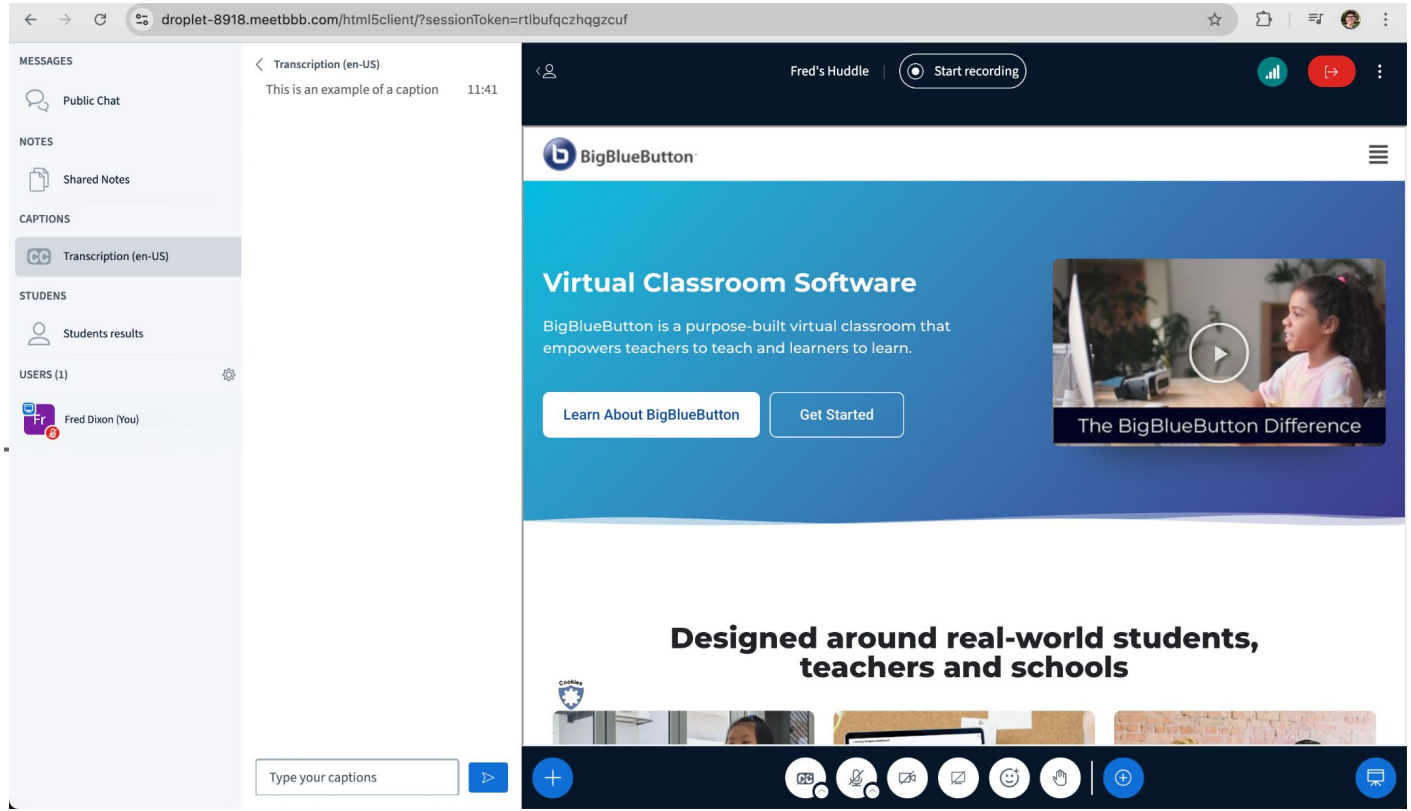


#1 - Pick Random User



#2 - Write closed captions





#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.

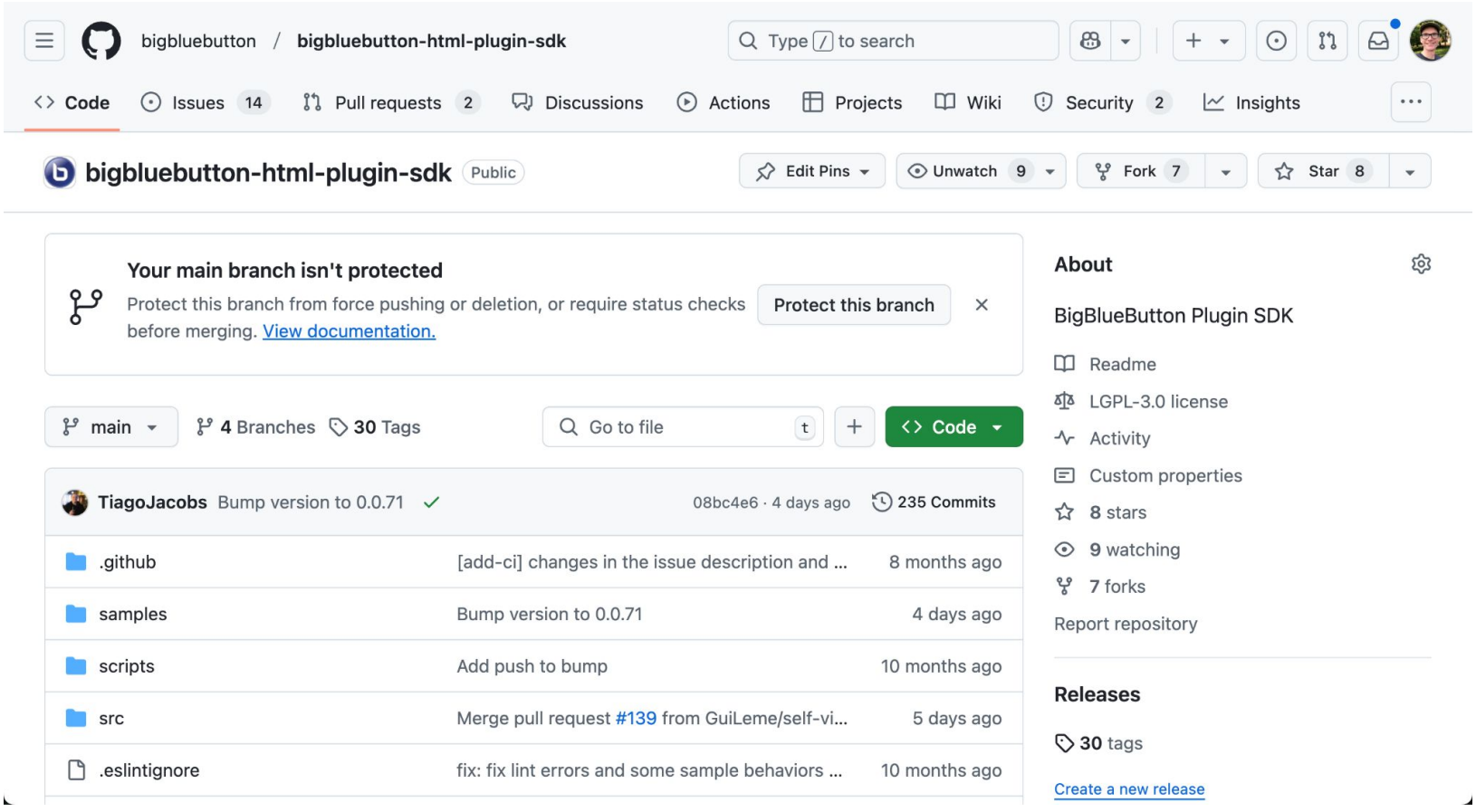
Telemedicine & Health – Enhance virtual consultations with secure document sharing and appointment scheduling.

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!*

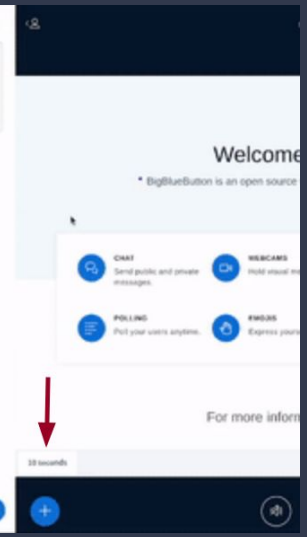


Plugin SDK Repository

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




```tsx
import * as React from 'react';
import { useEffect } from 'react';

import { BbbPluginSdk, PluginApi, PresentationToolbarButton } from 'bigblu
import { SamplePresentationToolbarPluginProps } from './types';

function SamplePresentationToolbarPlugin(
  { pluginUuid: uuid }: SamplePresentationToolbarPluginProps,
) : React.ReactNode {
  BbbPluginSdk.initialize(uuid);
  const pluginApi: PluginApi = BbbPluginSdk.getPluginApi(uuid);

  useEffect(() => {
    // Add a button
    pluginApi.setPresentationToolbarItems([
      new PresentationToolbarButton({
        label: '10 seconds',
        tooltip: 'this is a button injected by plugin',
        style: {},
        onClick: () => {
          // eslint-disable-next-line no-alert
          alert('You clicked!');
        },
      }),
    ]);

    // Remove button after 10s
    setTimeout( () => {
      pluginApi.setPresentationToolbarItems([]);
    }, 10000);
  }, []);

  return null;
}

export default SamplePresentationToolbarPlugin;
```

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://bigbluebutton.org/