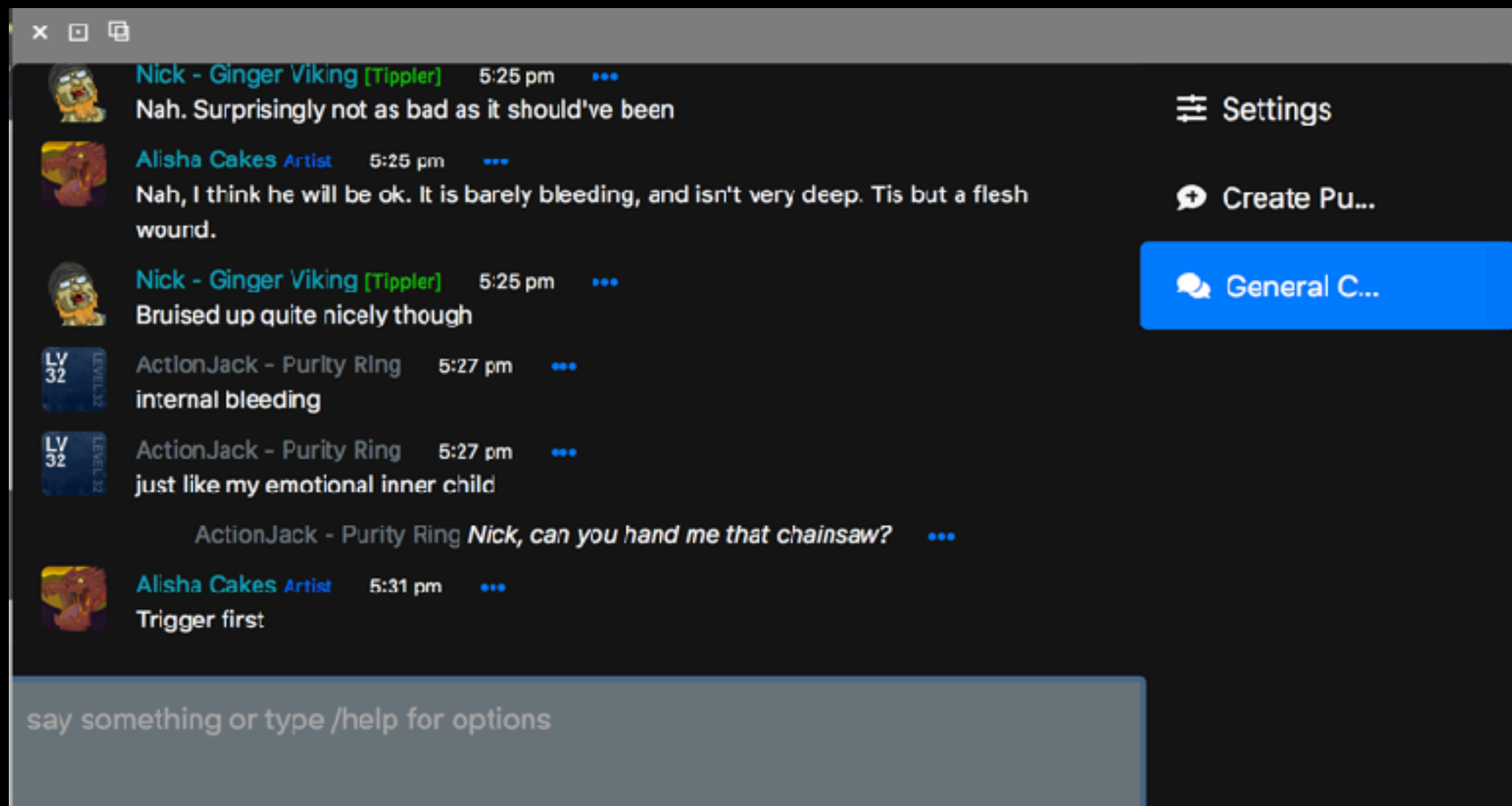


Building a Chat

Vue.js, Firebase, Bootstrap + Perl auth



This is the end result

thegamecrafter.com/chat

Goals

- Auth to thegamecrafter.com
- Allow moderators to have special privs including banning users
- Multi-room
- SPAM deterrents
- Design independent of the rest of the site
- Configure special features per site it's deployed to
- Embeddable on every page of the site

Core Components

- Storage
- Auth
- UI
- Styling

Firestore Rules

```
{
  // Firestore security rules
  "rules": {
    // By default, make all data private unless specified otherwise.
    ".read": false,
    ".write": false,
    "chat" : {
      // gonna put our rules here
    },
  },
}
```

Firestore Rules

```
"users" : {
  "$uid" : {
    ".write" : "auth.uid === $uid",
    "invites" : {
      // A list of chat invitations from other users, append-only by anyone.
      "$room_id" : {
        // Allow the user who created the invitation to read the status of the
invitation.
        ".read" : "(auth != null) && (auth.uid === data.child('from_user_id').val())",
        ".write" : "(auth != null) && (!data.exists() || $uid === auth.uid ||
data.child('from_user_id').val() === auth.uid)",
        ".validate" :
"newData.hasChildren(['from_user_id','from_user_name','room_id','room_name']) &&
(newData.child('room_id').val() === $room_id)"
      },
    },
    "badge" : {
      ".validate" : "newData.val().length <= 10",
    },
  },
},
```

Firestore Auth Token

- JWT - JSON Web Token
- CPAN to the rescue!
 - `Crypt::JWT`

Firestore Auth Token

```
my $payload = {
  iss => $firebase_config->{service_email},
  sub => $firebase_config->{service_email},
  aud => "https://identitytoolkit.googleapis.com/
google.identity.identitytoolkit.v1.IdentityToolkit",
  iat => $now,
  exp => $now+(60*60), # Maximum expiration time is one hour
  uid => $self->id,
};
if (defined $claims && ref $claims eq 'HASH') {
  $payload->{claims} = $claims;
}
return encode_jwt(
  payload => $payload,
  alg      => 'RS256',
  key      => \$firebase_config->{admin_key},
);
```


Firestore Auth Token

What the token looks like (minus carriage returns)

```
eyJlbmMiOiJBMTI4R0NNliwiYWxnIjoiQTExOEtXIn0  
UusxEbzhGkORxTRq0xkFKhvzPrXb9smw  
VGfOuq0Fxt6TsdqLZUpnxw  
JajlQQ  
pkKZ7MHS0XjyGmRsqqgom6w
```

Firestore Connection

```
const fb = firebase.initializeApp({
  databaseURL : 'https://' + config.firebase.database + '.firebaseio.com',
  apiKey : config.firebase.api_key,
  authDomain : config.firebase.id + '.firebaseapp.com',
});
const db = fb.database();
const users_ref = db.ref('chat/users');
const moderators_ref = db.ref('chat/moderators');
```

Firestore Authentication

```
.auth().signInWithCustomToken(jwt)
  .then(
    auth => {
      users_ref.child(user.id).update(user, function(error) {

        if (user.moderator) {
          chat.refs.moderators.child(user.id).update(user, function(error) {
            start_app();
          });
        }
        else {
          start_app();
        }

      });
    }
  )
  .catch(function(error) {
    console.error("Firestore login failed!", error);
  });
```

Firestore Rules

```
"moderators" : {  
  "$uid" : {  
    ".write": "(auth != null) && (auth.uid === $uid) && (auth.token.moderator == 1)"  
  },  
}
```

UI / Vue.js

- Covered this in detail a couple months back
- Allows for making dynamic components

Chat global

Components

room-list

room-control

message-list

message-control

Could have done components
for individual buttons, but
didn't.

Bootstrap / Styling

64x64

List-based media object

Cras sit amet nibh libero, in gravida nulla. Nulla vel metus scelerisque ante sollicitudin. Cras purus odio, vestibulum in vulputate at, tempus viverra turpis. Fusce condimentum nunc ac nisi vulputate fringilla. Donec lacinia congue felis in faucibus.

64x64

List-based media object

Cras sit amet nibh libero, in gravida nulla. Nulla vel metus scelerisque ante sollicitudin. Cras purus odio, vestibulum in vulputate at, tempus viverra turpis. Fusce condimentum nunc ac nisi vulputate fringilla. Donec lacinia congue felis in faucibus.

Email address

We'll never share your email with anyone else.

Password

☐ Check me out

Submit

Home

Profile

Messages

Settings

Image cap

Card title

Some quick example text to build on the card title and make up the bulk of the card's content.

Cras justo odio

Dapibus ac facilisis in

Vestibulum at eros

[Card link](#) [Another link](#)

Other UI/Styling Pieces

- bootstrap-vue.org
 - Ties Bootstrap theme to Vue components
- fontawesome.com
 - Provides cool icons I can use for buttons and such

Try Out The App

Deep Dive On Code

Things I'll Likely Change

- Use vue-router instead of tabs
 - Ties a route to a specific Vue component instance
- Use vuex instead of a global chat object
 - Creates a bus for sharing data between components

It's all part of Wing

wingapi.com