

CS494  
Internet Draft  
Intended status: IRC Class Project Specification  
Expires: April 2021

Portland State University  
March 2021

IRC Class Project Specification  
draft-irc-pdx-cs494.txt

Status of this Memo

This Internet-Draft is submitted in full conformance with the provisions of BCP 78 and BCP 79. This document may not be modified, and derivative works of it may not be created, except to publish it as an RFC and to translate it into languages other than English.

This document may contain material from IETF Documents or IETF Contributions published or made publicly available before November 10, 2008. The person(s) controlling the copyright in some of this material may not have granted the IETF Trust the right to allow modifications of such material outside the IETF Standards Process. Without obtaining an adequate license from the person(s) controlling the copyright in such materials, this document may not be modified outside the IETF Standards Process, and derivative works of it may not be created outside the IETF Standards Process, except to format it for publication as an RFC or to translate it into languages other than English.

Internet-Drafts are working documents of the Internet Engineering Task Force (IETF), its areas, and its working groups. Note that other groups may also distribute working documents as Internet-Drafts.

Internet-Drafts are draft documents valid for a maximum of six months and may be updated, replaced, or obsoleted by other documents at any time. It is inappropriate to use Internet-Drafts as reference material or to cite them other than as "work in progress."

The list of current Internet-Drafts can be accessed at  
<http://www.ietf.org/ietf/lid-abstracts.txt>

The list of Internet-Draft Shadow Directories can be accessed at  
<http://www.ietf.org/shadow.html>

This Internet-Draft will expire on September 16, 2021.

Copyright Notice

Copyright (c) 2021 IETF Trust and the persons identified as the document authors. All rights reserved.

This document is subject to BCP 78 and the IETF Trust’s Legal Provisions Relating to IETF Documents (<http://trustee.ietf.org/license-info>) in effect on the date of publication of this document. Please review these documents carefully, as they describe your rights and restrictions with respect to this document.

Abstract

This is a UDP-based chat software, all data is stored in the cloud. Except for the local backup log, the local client does not store any content. The software is divided into server side, client side and transmission side. The server-side content is hosted on the server malker.cn

Table of Contents

|  |   |
|--|---|
| 1. Introduction.....                               | 3 |
| 1.1. <Sub-section 1.1 heading as appropriate>..... |   |
| 2. Conventions used in this document.....          | 3 |
| 3. Basic Infomation.....                           | 3 |
| 4. Classes.....                                    |   |
| 5. Field definitions.....                          | 4 |
| 6. Formal Syntax.....                              | 7 |
| 7. Security Considerations.....                    | 7 |
| 8. IANA Considerations.....                        | 7 |
| 9. Conclusions.....                                | 7 |
| 10. References.....                                | 8 |
| 10.1. Normative References.....                    | 8 |
| 10.2. Informative References.....                  | 8 |
| 11. Acknowledgments.....                           | 8 |

Commented [ZZ1]:

Commented [ZZ2R1]:

## 1. Introduction

This is a chat room platform hosted in the cloud. Users can connect to the server through the client, create chat rooms, join chat rooms, get the server-side chat room list, and chat room members, get chat history, send messages to single or multiple chat rooms, and disconnect from chat rooms Connection. The server can send messages to specific clients to remotely control the shutdown of the server. Not only that, whether it is the client or the server, they can store logs and record information at the time of a crash.

## 2. Conventions used in this document

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in RFC 2119 [RFC2119].

In this document, these words will appear with that interpretation only when in ALL CAPS. Lower case uses of these words are not to be interpreted as carrying significance described in RFC 2119.

In this document, the characters ">>" preceding an indented line(s) indicates a statement using the key words listed above. This convention aids reviewers in quickly identifying or finding the portions of this RFC covered by these keywords.

## 3. Basic Information

All communications described in this protocol are transmitted based on the UDP protocol, and the listening port is located on port 999 of the server's intranet. The client connects to this port and maintains a persistent connection to the server on this port. The client can communicate with the server in a preset way. The messaging protocol is asynchronous in nature-the client is free to execute. For the connection between the client and server ports, both can be unilaterally disconnected. In the testing phase, both can ask the other to stop the service, which means that the process ends. For chat rooms, the room password and corresponding scale are encapsulated in the chat room, which facilitates the encryption of the information in the room. Although the passwords in the rooms are all the same, the transmission is actually transmitted in plain text.

## 4. Classes

### 4.1 Room Class

```
class creatchatroom:
    name = ''
    contain = 4
    path = './Rooms/'
    infopath = ''
    passwd = 12345
def __init__(self,name,contain,creator):
def changepasswd(self, newpasswd):
def addmsg(self,username,msg):
def getchathistory(self):
def joinuser(self, str_username):
def getroominfo(self):
def getroomname(self):
4.2 User Class
```

```
class creatuser:
    number = 0
    username = ''
    host = '0.0.0.0'
    enterdate = ''
    path = './Users/'
def __init__(self,number,name,host):
```

## 5. Field definitions:

CS494FinalProject

```
|—— Class
|   |—— Encrypt
|   |   |—— encrypt_string.py
|   |—— FeatureNote.md
|   |—— List.py
|   |—— Room.py
```

```
|   |--- Rooms
|   |   |--- Room-0
|   |   |   |--- Room-0_info
|   |--- Test.py
|   |--- User.py
|   |--- Users
|   |   |--- 0_Default
|   |   |--- 0_Zhang_San_0
|   |   |--- 1_Zhang_San_1
|   |   |--- 2_Zhang_San_2
|   |   |--- 3_Zhang_San_3
|   |   |--- 4_Zhang_San_4
|   |   |--- 5_Zhang_San_5
|   |   |--- 6_Zhang_San_6
|   |   |--- 7_Zhang_San_7
|   |   |--- 8_Zhang_San_8
|   |   |   |--- 9_Zhang_San_9
|   |--- __pycache__
|       |--- List.cpython-38.pyc
|       |--- Room.cpython-36.pyc
|       |--- Room.cpython-38.pyc
|       |--- User.cpython-36.pyc
|       |   |--- User.cpython-38.pyc
|--- Client
```

- | |—— client.js
- | |—— log.txt
- | |—— package-lock.json
- | |—— package.json
- | |—— udp-client.py
- |—— Doc
- |—— PyServer
- | |—— FeatureNote.md
- | |—— List.py
- | |—— Room.py
- | |—— Rooms
- | | |—— Room-0
- | | |—— Room-0\_info
- | |—— Test.py
- | |—— User.py
- | |—— Users
- | | |—— 0\_Default
- | | |—— 0\_Zhang\_San\_0
- | | |—— 1\_Zhang\_San\_1
- | |—— \_\_pycache\_\_
- | | |—— Room.cpython-36.pyc
- | | |—— Room.cpython-38.pyc
- | | |—— Test.cpython-38.pyc
- | | |—— User.cpython-36.pyc

```
|   |   └── User.cpython-38.pyc
|   └── log.txt
|   └── udp-server.py
└── README.md
```

### 5.1 Class

This is a folder for local testing

### 5.2 PyServer

This is a file used on the server side

#### 5.2.1 Room

This is the folder used to store room information files and chat log files.

### 5.3 Client

This is the folder used to store the client and client logs

## 6. Formal Syntax

The following syntax specification uses the augmented Backus-Naur Form (BNF) as described in RFC-2234 [RFC2234].

## 7. Security Considerations

The text of this website uses utf-8 for transmission by default, and basically does not have encryption function. It is more of a continuation of ASCII. This is the effort made by the project in the security part.

## 8. IANA Considerations

None

## 9. Conclusions

That's all of this document. It implements the design details of the basic network transmission function chat room software through the UDP protocol.

## 10. References

### 10.1. Normative References

- [1] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", BCP 14, RFC 2119, March 1997.
- [2] Crocker, D. and Overell, P.(Editors), "Augmented BNF for Syntax Specifications: ABNF", RFC 2234, Internet Mail Consortium and Demon Internet Ltd., November 1997.
- [RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", BCP 14, RFC 2119, March 1997.
- [RFC2234] Crocker, D. and Overell, P.(Editors), "Augmented BNF for Syntax Specifications: ABNF", RFC 2234, Internet Mail Consortium and Demon Internet Ltd., November 1997.

### 10.2. Informative References

- [3] Faber, T., Touch, J. and W. Yue, "The TIME-WAIT state in TCP and Its Effect on Busy Servers", Proc. Infocom 1999 pp. 1573-1583.
- [Fab1999] Faber, T., Touch, J. and W. Yue, "The TIME-WAIT state in TCP and Its Effect on Busy Servers", Proc. Infocom 1999 pp. 1573-1583.

## 11. Acknowledgments

This document was prepared using 2-Word-v2.0.template.dot.

Copyright (c) 2021 IETF Trust and the persons identified as authors of the code. All rights reserved.

Redistribution and use in source and binary forms, with or without modification, is permitted pursuant to, and subject to the license terms contained in, the Simplified BSD License set forth in Section 4.c of the IETF Trust's Legal Provisions Relating to IETF Documents (<http://trustee.ietf.org/license-info>).

Copyright (c) 2021 IETF Trust and the persons identified as authors of the code. All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:



- o Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
- o Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
- o Neither the name of Internet Society, IETF or IETF Trust, nor the names of specific contributors, may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Internet-Draft      IRC Class Project Specification      March 2021

Authors' Addresses

Zhengao Zhang

Email: zhengmao@pdx.edu