

# **JSTP**

**by Team Stellar**

# Choosing a Protocol

- Simple to implement
- Extensible
- Support in Qt
- Let's not re-invent the wheel

# Model after the best

- Most successful messaging protocol?
- HTTP
- Fits our needs
- Simple to implement

# JSTP

- Like HTTP
- Uses JSON objects instead of HTML
- Simple networking
- Work in Objects, not bytes

**So simple even a  
Java Developer  
can do it!**

# Packet layout

- Can you send a QString?
- Then your Socket programming is done.
- Messages are completely string-based

# Message Structure

- Make a Request
- Send data if needed
- Receive Response
- Process it

# Requests

- Have headers
- Optional message body
- Ask for a resource
- Handle authentication



# Requests

**GET “/users/matilda/info”**

**username: ma~**

**password: sekret**

# Requests

**POST “/boards/3004/add\_news f”**

**username: ma~**

**password: sekret**

**{ text: “in ur news flashin” }**

# Verbs

- GET
- POST
- DELETE

# Post body

- 1 blank line after headers
- Then a JSON object
- See API for format

# Response

- Server does some work
- Returns to you a JSON object
- Check its status, check for error
- We use some HTTP error codes
- Consume the body

# Push Notification

- Server does this on other updates
- Looks just like a Response
- Has status: "Notification"

# Response

{

status: "OK",

error: "",

request: "/boards/comp3004"

body: {

// the returned object

}

}

# Binary Data

- Just use Base64 encoded strings
- Can use in-line too!
- Just use the binary token in your string
- "Look at the picture: %@"



# API

# User

GET `"/users/#username/login"`

```
{  
  username: "matilda@connect.carleton.ca",  
  nickname: "matilda",  
  icon: "base64Image==",  
}
```

# User

GET `"/users/#username/info"`

```
{
  full-name: "Jason Brennan",
  nickname: "jbreannan",
  username: "jbrenna7@connect.carleton.ca",
  profile-image: "base64Image==",
  courses: [{
    // course info
  },
  etc.],
  newsflashes: [
    {
      // newsflash info
    }
  ]
}
```

# User

POST `"/users/#username/flashfeed"`

```
{  
  courses: [comp3004, comp3000, ling2006]  
}
```

# Boards

GET `"/flashboards/#course/newsflashes"`

```
{  
  segments: [  
  ]  
}
```

```
{  
  newsflashes: [  
  ]  
}
```

# Newsflash

```
{  
  newsflash-id: 123456,  
  newsflash-date: 54321542623  
  html-text: "This is a newflash with a <a  
href='http://google.com'>link</a> and an image %@",  
  binaries: [  
    "binaryImage1=="  
  ]  
}
```

# Deleting

```
DELETE "/flashboards/#course/delete_seg"
```

```
{  
  // DELETE body  
  segments: [  
    "helpSegmentID"  
  ]  
}
```