

The Term Project (30 Points)

- ❖ Form teams of up to 3 people (for Option 3) or up to 4 people (for Options 1 & 2).
 - ❖ Choose one of the following options (for now)
 - ❖ **Option 1:** Build a web server using Java, or any language of your choice.
 - ❖ Basic requirements: **HTTP** (GET, HEAD & POST), **logging** & **multi-threading**
 - ❖ At least 2 optional features such as authentication/authorization, bandwidth throttling, SSL, etc. (See more choices on the next slide.)
 - ❖ NIO can count as a replacement for multi-threading
 - ❖ **Option 2:** Build a web server using Java and the **HttpCore API** (See Slide 3) .
Same requirements as Option 1.
 - ❖ **Option 3:** Build a **web site** (See Slide 4), using *XAMPP* (<http://www.apachefriends.org>), or *Apache Tomcat* + Java Servlets/JSP
 - ❖ Feel free to be creative and suggest other possibilities
 - ❖ Project proposals due **November 17** (See the last slide for requirements)
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Features That Could Be Added

- ❖ There is a Web server program in Textbook #2, called **JHTTP.java**, which you are allowed to reuse in your term project. (But you are not required to use it.) Some of the features that could be added to that program include:
 - ❖ Support for other request methods, such as POST, HEAD, etc. (Required)
 - ❖ Authentication/Authorization
 - ❖ SSL (Secure Socket Layers): Using **SSLSocket** & **SSLServerSocket** classes (Read Chap. 10 of Textbook #2, if interested in this feature.)
 - ❖ Cache requests – keeping track of requests you’ve received and store the data from the most frequently requested files in a Map so that they’re kept in memory.
 - ❖ A server administration interface (UI)
 - ❖ Support for multiple document roots so individual users can have their own sites
 - ❖ Use non-blocking I/O and channels instead of threads and streams. (Read Chapter 5 of Textbook #1, if interested in this feature.)
 - ❖ Support for the Java Servlets. (Advanced Java)
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HttpCore Tutorial

[Next](#)

HttpCore Tutorial

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[Preface](#)

[1. HttpCore Scope](#)

[2. HttpCore Goals](#)

[3. What HttpCore is NOT](#)

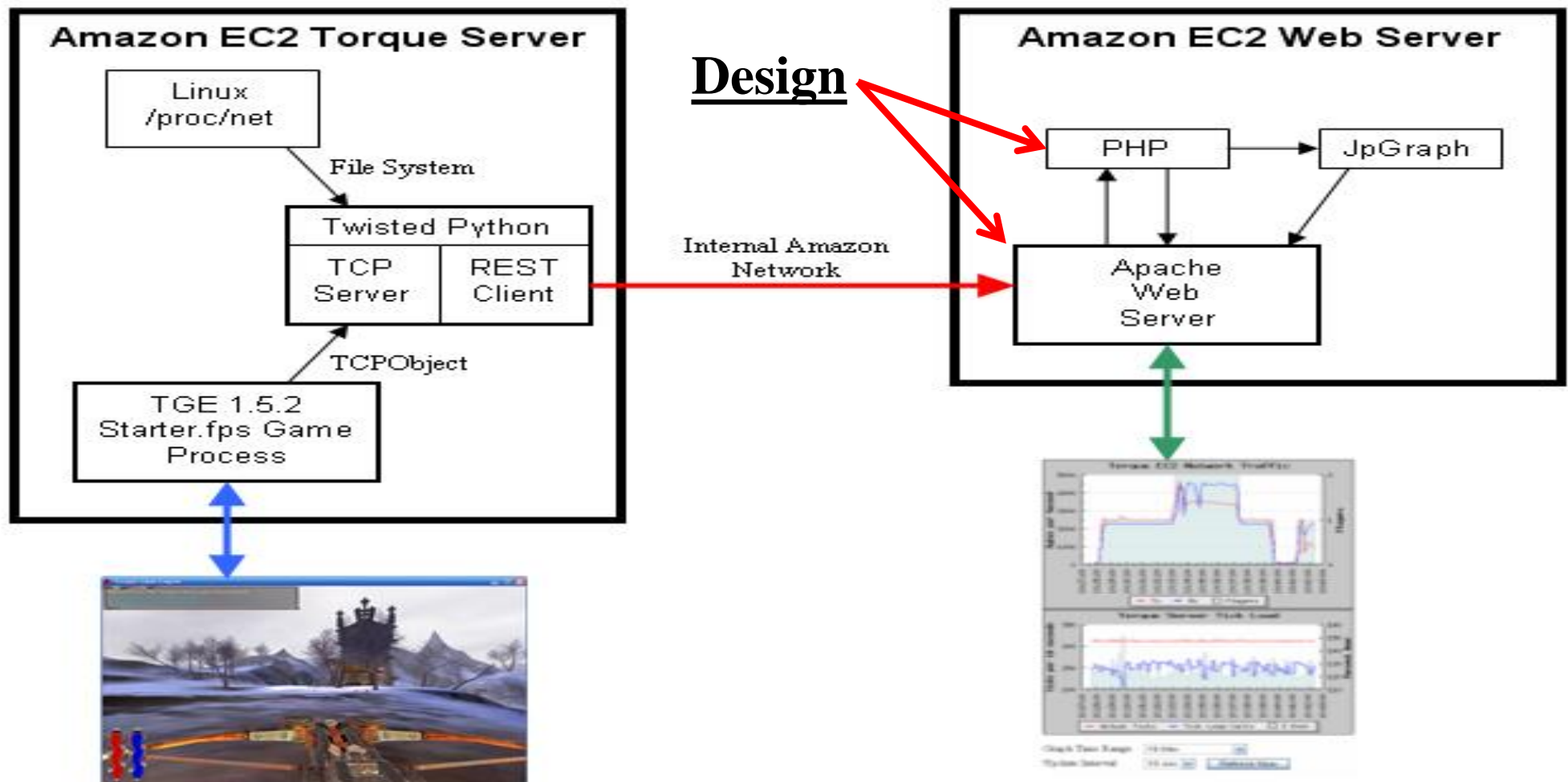
[1. Fundamentals](#)

[1.1. HTTP messages](#)

[1.1.1. Structure](#)

Web Servers and Websites

- ❖ The most common use of web servers is to host **websites**, but there are other uses such as **gaming**, **data storage** or running **enterprise applications**.



Term Project Proposal

- ❖ Due **Friday, November 17**, submit via Blackboard.
 - ❖ Your term project proposal should include:
 - ❖ **Names** of the team members:
 - ❖ Which **Option** (1, 2 or 3), using which language
 - ❖ For options 1 & 2, specify the 2 optional features you plan to implement.
 - ❖ For Option 3, provide more details about the **web site** you plan to build
 - ❖ Last but not least, who is responsible for what.
“Everybody is responsible for everything” is no good.
 - ❖ Although it will not be graded, but you will be asked to resubmit if it doesn't provide enough details.
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