Introduction:

Today we live in a world where we have the capacity to communicate electronically by many means including e-mail, text messaging, social networks, VOIP, and etc. However, we also use several devices including cell phones, desktop computers, laptops, and tablets by which we access these means of communications. As a result of our fast-paced lives, it has become increasingly important to minimize response times after a message is received. We are constantly on the move and generally a sender has no way of determining how to best contact a recipient when the sender has no knowledge of what the recipient may be doing at the time the message is sent. Looking at this from the other side, a recipient has no way to inform all senders how to best contact him or her, based on what the his preferences or what he is doing at a particular moment in time.

The Unified Messaging System will benefit both senders and recipients, by allowing users to send messages to other users with the use of a single platform. The Unified Messaging System will decide how to best contact the recipient based on the recipient’s current login status as well as preferences indicated on their user account. This will effectively minimize response times, by delivering messages to recipients based on their preferences, which in turn should be based upon their availability. The platform will allow users to prioritize the means of communication by which they’d like to be contacted based upon the current device or application the user is using and the preferences for how we would like to be contacted. Ultimately, the system will unify instant messaging, e-mail, text messaging, and possibly VOIP and will deliver the "communication data" to a user depending on the availability of the user and the device he/she is using at any point in time.
**Implementation:**

The UMS system will rely on a website which has the capacity to allow users to communicate by instant message/chat, or forward messages to other users via email, text messaging, or VOIP. The UMS system will require that its users set up accounts on the UMS website. The registration process will likely request that a person provide their first name, middle name/initial, last name, cell phone number and provider, email address, and messaging preferences. A user will indicate their messaging preferences by answering a series of questions similar to these example questions:

- If you receive a message while logged in UMS, would you like to receive it via instant message?
- I would like to receive messages larger than ## words by? (Email, SMS, VOIP)
- I would like to receive messages shorter than ## words by? (Email, SMS, VOIP)
- How would you like to receive messages that contain attachments?
  - Only E-Mail?
  - Text message (with the words only) and E-mail containing entirety of message?

Considering the time constraints for the completion of this project, it may be more practical for the UMS to always send a text message to a user when he/she is sent a message. This text message could simply contain a notice that informs the user that he received a message, some basic information about the contents of the message (such as word count), and also a link that would send him to a page that would allow him to select how he would like to receive the message.

Using a server to send emails or text messages should be relatively easy. Sending emails from the or one of the UMS servers can be accomplished by using html, JavaScript, or PHP along with SMTP authentication. For text messages, most cell phone carriers actually provide a method by which text messages can be sent via email. This is why UMS will require users to indicate their cell phone provider, so that when the server sends text messages it can easily select the correct domain name that should be
attached to the recipient’s cell phone number. Implementing VOIP, may be a little more difficult considering the time frame. However, a service such as iSpeech may make it easier to integrate VOIP into the UMS system.

Finally, UMS will also allow users to build a contact list, so that they can quickly identify other users of UMS with whom they contact frequently. Ideally, UMS will make use of the Facebook API to allow UMS users to also login to the system using their Facebook accounts and to grant UMS access to their friend’s list. This will allow UMS to automatically generate a UMS contact list for each user based on their Facebook friends that also use UMS.

**Deliverables with Tentative Schedule:**

- Web Pages containing Abstract, Initial Proposal, and code
- Codebase for UMS website and server(s)
- Possibly, code for UMS mobile website/app
- Final Paper