```java
//Can not be Message constructors because of GWT
//These methods can't be static like they should be because of GWT

package ballmerpeak.turtlenet.server;
import ballmerpeak.turtlenet.shared.Message;
import ballmerpeak.turtlenet.server.Crypto;
import java.security.*;


public class MessageFactory {
    public MessageFactory(){
    }

    public  Message newMessage(String cmd, String content) {
        long timestamp = System.currentTimeMillis();
        Message msg = new Message(cmd, content, timestamp, "");
        msg.signature = Crypto.sign(msg);
        return msg;
    }

    public Message newCLAIM(String username) {
        return newMessage("CLAIM", username);
    }

    public Message newREVOKE(long time) {
        return newMessage("REVOKE", ""+time);
    }

    public Message newPDATA(String field, String value) {
        return newMessage("PDATA", field + ":" + value + ";");
    }

    public Message newPDATA(String[] fields, String[] values) {
        String content = "";
        for (int i = 0; i < fields.length; i++)
            content += (values[i] + ":" + fields[i] + ";");
        Logger.write("VERBOSE", "MsgF", "constructed pdata message: " + content);
        return newMessage("PDATA", content);
    }

    public Message newCHAT(PublicKey[] keys) {
        String keyString = "";
        String delim = "";
        for (int i = 0; i < keys.length; i++) {
            keyString += delim + Crypto.encodeKey(keys[i]);
            delim = ":"; /*intentional*/
        }
        return newMessage("CHAT", keyString);
    }

    public Message newCHAT(String[] keys) {
        String keyString = "";
        String delim = "";
        for (int i = 0; i < keys.length; i++) {
            keyString += delim + keys[i];
            delim = ":"; /*intentional*/
        }
        return newMessage("CHAT", keyString);
    }

    public Message newPCHAT(String convoSig, String msg) {
        return newMessage("PCHAT", convoSig + ":" + msg);
    }

    public Message newPOST(String msg, String wall, String[] visibleTo) {
        String content = wall;
        for (int i = 0; i < visibleTo.length; i++)
            content += (":" + visibleTo[i]);
        content += (":" + msg);
        return newMessage("POST", content);
    }

    public Message newCMNT(String itemSig, String comment) {
        return newMessage("CMNT", itemSig + ":" + comment);
    }

    public Message newLIKE(String itemSig) {
        return newMessage("LIKE", itemSig);
    }

    public Message newUNLIKE(String itemSig) {
        return newMessage("UNLIKE", itemSig);
    }

    public Message newEVNT(long start, long end, String descrip) {
        return newMessage("EVNT", start + ":" + end + ":" + descrip);
    }

    public Message newADDCAT(String name, boolean canSeePDATA) {
        return newMessage("ADDCAT", (canSeePDATA?"true":"false") + ":" + name);
    }

    public Message newUPDATECAT(String category, boolean value) {
```

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94              return newMessage("UPDATECAT", (value?"true":"false") + ":" + category);
95          }
96
97          public Message newADDTOCAT(String category, String key) {
98              return newMessage("ADDTOCAT", key + ":" + category);
99          }
100
101         public Message newREMFROMCAT(String category, String key) {
102             return newMessage("REMFROMCAT", key + ":" + category);
103         }
104
105         public Message newADDKEY(String key) {
106             return newMessage("ADDKEY", key);
107         }
108     }
```