Glenna Baker
Indiana University
SURG

Chick Clique Journal

Week 1—(05/22/06 to 05/26/06)

<u>Monday</u>
- Lucy and Caleb set up and issued me my access card for the front door, floor 3, and office 305 of Lindley Hall.
- Rob set up my computer science account for access to the typhoon server and my computer in office 305.
- Lynne helped me set up a login password for my computer.
- Read documented information about Chick Clique, which is the project I will be working on for the next 10 weeks.
- I built my website for the Security for Ubiquitous Research Group (SURG) and Anne helped me move my html file and picture to the proper directory to post on the SURG website.
- Attended the SURG meeting for the week
- Attended a private individual meeting with Kay to discuss how I would be working on Chick Clique.

<u>Tuesday</u>
- Anne gave me a tutorial for how to write MIDlet Applications for Nokia phones.
- I learned that Chick Clique was implemented on Nokia 6682 cellular phones using the J2ME Wireless Toolkit, Eclipse, EclipseME, Nokia Developers Suite, and Nokia PC Suite.

<u>Wednesday</u>
- I read about Short Message Service(SMS) and looked at example MIDlet Applications.
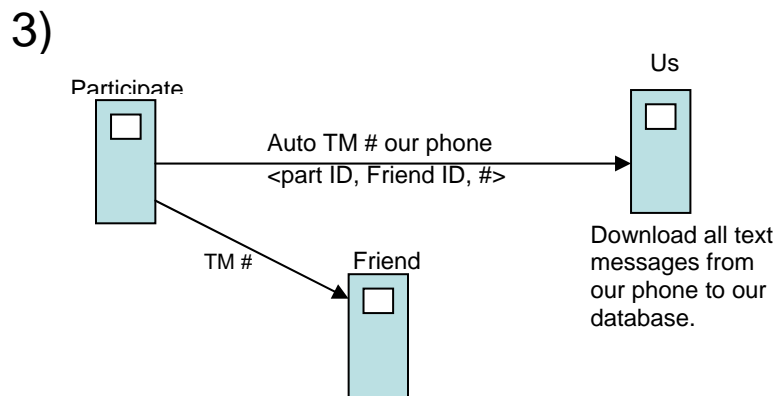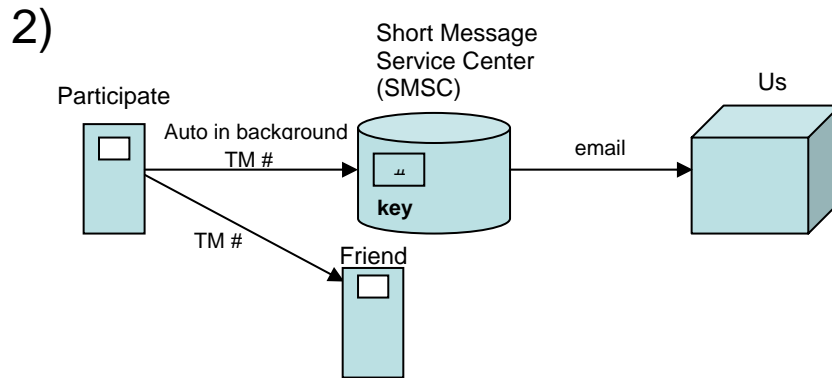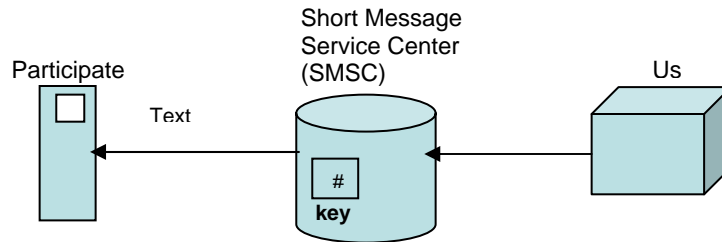
<u>Thursday</u>
- I also read about the Computer Interface to Message Distribution (CIMD) interface and the Simple Message Service Center (SMSC). The CIMD interface allows a CIMD Application to query a SMSC for details about messages the application has sent and messages it is waiting to receive. CIMD Applications can be mobile applications that are deployable to Nokia cellular phones.

<u>Friday</u>

- Brain stormed ideals on how to copy text messages sent from the Click Clique Application on Nokia phones to an external Computer (via. email account or database).

1) Background process that checks all incoming TM and stores database key. We then ask the SMSC database for the TM associated with the database key.

Short Message Service Center (SMSC)

Participate

Us

Text

#

key

2)

Short Message Service Center (SMSC)

Participate

Us

Auto in background

TM #

email

key

TM #

Friend

3)

Us

Participate

Auto TM # our phone

<part ID, Friend ID, #>

TM #

Friend

Download all text messages from our phone to our database.

Week 2— (05/28/06 to 06/02/06)

<u>Monday</u>
- Read through some of the Java code for Chick Clique.
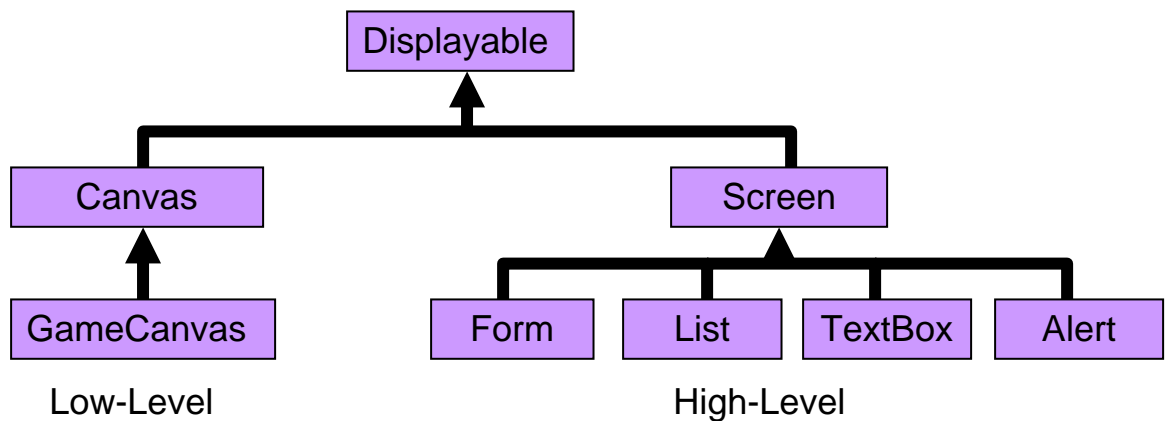
<u>Tuesday</u>
- Helped Rong get her access card for the front door, floor 2, floor 3, and office 305 of Lindley Hall.
- Updated my access card so that I now have access to floor 2 of Lindley Hall.
- Attended weekly SURG meeting.
- Attended individual meeting with Kay.
- Read over some of Anne's code for Chick Clique.

<u>Wednesday</u>
- Continued reading over some of Anne's code for Chick Clique.
- Signed up for a GRE prep course provided by Indiana University
- Made the following diagram of the MIDP User Interface Hierarchy

MIDP User Interface Class

```
                        ┌──────────────┐
                        │  Displayable │
                        └──────────────┘
                               ▲
              ┌────────────────┴────────────────┐
        ┌───────────┐                     ┌───────────┐
        │  Canvas   │                     │  Screen   │
        └───────────┘                     └───────────┘
              ▲                                 ▲
              │                 ┌───────┬───────┴───────┬───────┐
      ┌───────────────┐    ┌─────────┐ ┌──────┐ ┌──────────┐ ┌───────┐
      │  GameCanvas   │    │  Form   │ │ List │ │ TextBox  │ │ Alert │
      └───────────────┘    └─────────┘ └──────┘ └──────────┘ └───────┘

           Low-Level                      High-Level
```

<u>Thursday</u>
- Continued reading over some of Anne's code for Chick Clique.

<u>Friday</u>
- Reinstalled and integrated the Nokia Developers Suite into the Eclipse IDE.
- Wrote a practice MIDlet application and deployed it to a Nokia 6682 cellular phone.

Week 3— (06/05/06 to 06/09/06)

Monday
- Copied the code for Chick Clique into a new J2ME MIDlet Suite Project in Eclipse.
- Deployed the Chick Clique application to a Nokia cellular phone and was informed that the application was untrusted. This was okay, because Anne had not given me a copy of the code signing certificate to deploy with the application yet.

Tuesday
- Received a copy of the code signing certificate from Anne, imported it into Eclipse using the integrated Carbide.j tool, packaged the Chick Clique application, and deployed it to the cellular phone. The application was installed without the phone telling me that the application was untrusted, which meant that the code signing certificate was working.
- I next attempted to send a text message using the text messaging screen coded into Chick Clique, but it wouldn't work. Anne had written the code for text messaging using Chick Clique and the text messaging worked fine when see deployed the application to her Nokia phone.
- When I opened the error log for Eclipse, I noticed that an error had occurred when I packaged Chick Clique before deploying it. I tried packaging Chick Clique again and I received the same error. So I uninstalled and reinstalled Nokia's packaging tool, Carbide.j, which I had integrated into Eclipse. I thought that the tool might have been installed incorrectly. However, this did not help I receive the same error when packaging Chick Clique and the text messaging still did not work.

Wednesday
- I was still receiving the same error when packaging and the text messaging still was not working. I tried uninstalling and reinstalling all of the software I was using for my project, which included Eclipse, EclipseME, J2ME Wireless Toolkit, and Carbide.j. This did not help.

Thursday
- I was still receiving the same error when packaging and the text messaging was still not working. So again I tried uninstalling and reinstalling all of the software that I was using for my project. This still didn't help.

Friday
- I logged into Tammy's computer, which already had the Chick Clique Project created. I deployed Tammy's version of Chick Clique to my Nokia phone and the text messaging functionality in Chick Clique worked just fine. This made me think that I might have an outdated version of Chick Clique, but Anne informed me that I had the most up to date version. So needless to say I was still confused as to why I could not get the text messaging functionality to work in the J2ME MIDlet Suite Project I had created for Chick Clique on my computer.

Week 4— (06/12/06 to 06/16/06)

Monday
- I still couldn't get the error to go away or get the text messaging to work for Chick Clique when I deployed the application from my computer. So, I decide to wait until my weekly meeting with SURG on Tuesday to ask Kay what I should do to resolve the problem.

Tuesday
- I attended the weekly SURG meeting and told Kay about the trouble I was having with the Chick Clique and the software I installed. She contacted Lynne Ann Crohn, Indiana University's PC Support Specialist to help me reinstall the software I was using in hopes that this would resolve the problem.

Wednesday
- Lynne uninstalled and reinstalled the software I was using, but the error persisted and the text messaging for Chick Clique still didn't work. She also tried changing my environmental paths and permissions and updated my virus protection software, but this did not help either.
- While Lynne was uninstalling and reinstalling the software I was looking at Tammy's code and trying to figure out why her version of Chick Clique was not giving me any problems. I noticed that Tammy was using J2ME Polish instead of Carbide.j to package Chick Clique. However, I had no ideal how to use J2ME Polish.

Thursday
- I did research online on how to use J2ME Polish via an Ant Build.

Friday
- I copied everything in Tammy's Chick Clique Project in Eclipse on her computer to a portable USB storage disk and transferred this information to my computer. I then created a new Chick Click Project with Tammy's information and did an Ant Build. I received no errors and when I deployed the application to my Nokia phone the text messaging functionality worked perfectly!

Week 5— (06/19/06 to 06/23/06)

Monday
- Kay had asked me earlier, before all of the software problems I encounted, if I could figure out how to send a text message from a Cingular phone to an email account and from an email account to a Cingular phone. So, I looked on line and figured out how to send a text message from an email account to a Cingular phone. However, I could not figure out how to send a text message from a Cingular phone to an email account. So, I called the Cingular Wireless customer help line. The customer service representative informed me that I could do this by typing "362 45" in the "To:" field of the text message, typing the email address on the first line of the message body, and following the email address of the text message with the rest of my desired text.
- Inserted code that I had written into the Chick Clique application to see if the application would send a text message form the phone to my email account.

Tuesday
- Attended weekly meeting with SURG and updated everyone on my progress.
- Searched online for a way to parse an email account so that copies of Chick Clique users text messages could be parsed and saved to a backend database, for observational purposes.This information is to be used during the Nokia cell phone testing of the application in the Fall.

Wednesday
- Searched online for an easier solution than email parsing for capturing copies of Chick Clique users text messages and tracking their use of the functionalities in Chick Clique.
- Found a bundle of open source software online designed to allow a synchronized mobile device application to synchronize its RecordStore with an identical RecordStore on a backend database. The synchronized application could then be deployed to a Nokia phone and synchronized with the backend database over the air as long as the Nokia phone has internet and World Wide Web service enabled.

Thursday
- Recreated the sample synchronized MIDlet application described in the tutorial, which came with the bundle download. However, the synchronization appeared to not be working correctly.
- I deleted and recreated the SyncSource in Sync4j Admin several times at the suggestion of the trouble shooting section in the tutorial, but still the synchronization appeared not to be working.

Friday
- Spent the entire day figuring out that the synchronization for the example application was fine. It just appeared not to be working, because I had not installed the patch for the J2ME Wireless Toolkit that the emulators needed.

Week 6— (06/26/06 to 06/30/06)

Monday
- Tried to figure out how to deploy the synchronized example application and server to a Nokia phone.
- Found out that my research group's prepaid Cingular cell phone plans charge 1 cent per kilobyte for information sent over the Internet. This was a problem, because the RestoreStores stored on the phone for the Chick Clique application and in the backend database where going to be much larger than a couple of kilobytes. Therefore, daily synchronization between the RecordStores for Chick Clique on the phone and the RecordStores in the backend database would be too costly.

Tuesday
- Attended the weekly meeting for my research group.
- Decided to go back to the ideal of email parsing to complete my project, since over air synchronization was too costly for my research groups budget.
- Began searching online for a programming language that would allow me to parse all incoming email messages and store copies of the messages in a mySQL database.

Wednesday
- Continued searching for a way to parse email messages coming into an email account and store copies of the messages in a mySQL database.

Thursday
- Found out that email parsing could be performed using the Python email libraries and the Internet Message Access Protocol (IMAP).
- Continued looking for more descriptive online tutorials on how to parse an email account using Python.

Friday
- Downloaded an IDE for Python and began writing code in Python for email parsing.

Week 7— (07/03/06 to 07/07/06)

Monday
- Talked to Rob Henderson about replacing the cc60106/inbox file he setup with a real CS account. Rob had setup the cc60106/inbox file to filter all incoming text messages from Chick Clique to, however in order to use the IMAP libraries in my Python script I needed a CS account on an IMAP server.
- Rob expressed to me his concerns over creating a new CS account. With the file Rob had created everyone in SURG had reading and writing permissions to the file as log as they ssh into typhoon using their username and password. Rob explained to me that creating a new CS account would mean that researchers in SURG would only have access to the account if they logged into typhoon using the CS account's username and password. This is a security issue, because there is no way for Rob to track how many people or which people have the username and password for the CS account.
- Rob attempted to find another way for me to parse the email account using the file and not a CS account, but he didn't find anything so he offered to go ahead and setup the CS account for me. However, Paul in my research group helped me figure out how to parse the email account using my personal CS account, Procmail, and Perl.
- Changed the contents of my .forward file, began writing a .procmail file, and began writing a Perl script for filtering Chick Clique text messages.

Tuesday
- Tried to figure how to obtain and parse the email messages that .procmail was passing to my Perl script.

Wednesday
- Figured out how to pass variables from a .procmail file to a Perl script, but not how to assign email messages passed to a Perl script to a variable within the script.

Thursday
- Figured out how to pass files from the command line to a Perl script, but still did not find out how to assign email messages passed to a Perl script to a variable within the script.

Friday
- Finally, figured out that I could read the emails passed into the Perl script into a string by using <STDIN>, variables, string concatenation, and a while loop.

Week 8— (07/10/06 to 07/14/06)

Monday
- The while loop was not working properly so I figured out a way to capture the fields of the incoming text messages using $ENV{variable name from .procmailrc file}, which allowed me to access these fields from inside my parseEmail.pl perl script.

Tuesday
- Continued working on my parseEmail.pl perl script.

Wednesday
- I ran into some problems with connecting my perl script to the MySQL database I created.

Thursday

- Still having problems connection my perl script to the MySQL database.
- Ann and I tried putting the email parsing code of my script into another perl script and putting my database connection code in different perl script instead of having them together in parseEmail.pl. Once we got the two segments of code working separately, I put the two segments of code back together in parseEmail.pl and the script's email parsing and database connection functionalities worked.

Friday
- Did some testing of my perl script, by sending email messages through my parseEmail.pl script using my email accounts.

Week 9— (07/17/06 to 07/21/06)

Monday
- Did some testing of my perl script, by sending text messages through my parseEmail.pl script using a Nokia 6602 cellular phone.

Tuesday
- Fixed problems that I found in my script during testing.
- Did follow-up testing of my script after fixing the problems in my code.

Wednesday
- Continued follow-up testing of my script after fixing the problems in my code.

Thursday
- Started working on creating the Chick Click Web Diary

Friday
- Continued working on creating the Chick Web Diary

Week 10— (07/24/06 to 07/28/06)

Monday
- Attended Katie Siek's PhD dissertation and went out to dinner with my co-workers and Katie's professors and friends to celebrate Katie passing her defense and earning her PhD degree.

Tuesday
- Started working on login.php, which is a php script, which is used by CCWebDiary.html to check the validity of the username and password.

Wednesday
- Got login functionality working for the Chick Clique Web Diary.

Thursday
- Added a Create Account link on the Chick Clique Web Dairy website. Is not currently functional, but I added a few comments suggesting how it could be implemented.

Friday
- Tried to figure out how to dynamically load the text messages of the Chick Clique participants, so that whenever they logged in their home page would display the text messages they received for the current day. I did not have enough time to finish coding this functionality, but I wrote some comments in my code suggesting how this functionality could be implemented.