**Week 1**

Sunday 5/24

Updated to Xcode 6.3

* Resolved 2 GTL YouTube errors relating to nil comparisons

Monday 5/25

Brainstormed and wrote document “Work to Do”

* Product, Development, Hiring, Marketing

Researched using git with Xcode

* .gitignore files
* Practiced by placing SamvitJainCV on version control

Tuesday 5/26

Investigated FB expired access tokens bug

* Tried setting an active FB session as current session

Reading from address book (AB)

* Adapted sample code from Apple’s documentation to select/display single contact’s info
* Wrote code for saving name, phones (mobile + iPhone), and emails for all contacts

Pushed SamvitJainCV to GitHub

Wednesday 5/27

Integrated address book access in sign up flow

* Finished writing logic for extracting data from address book
* Saved address book info to Parse on account creation
* Changed linkWithFBVC to findContactsVC
  + Removed linkWithFB button and changed view text
* Wrote logic to determine LMU users among AB contacts

Thursday 5/28

Added AB contact suggestions code to Data.m

* Parse query for LMU users among contacts not included in friends or request lists
* FB suggestions loaded after address book suggestions

Initialized local git repository for LinkMeUp

* Created .gitignore file
  + Determined appropriate contents for Xcode 6 project
* Made several commits relating to project folder reorganization
  + Deleted Pods
  + Deleted some Echoprint materials

Posted job to Seattle Android Developers group on LinkedIn

Wrote Jobs page for LinkMeUp website

Friday 5/29

Pushed LinkMeUp to new private Github repository

* Reorganized folder, placing Replaced Files in subfolder of Classes
* Pushed several commits

Tested SMS sending with MessageUI Framework

* Could compose message, but failed to send

Fixed dequeueReusableCellWithIdentifier bug in contactsVC

Created SMS\_links branch in local git repository

Alphabetical organization of contactsVC

* Added index to contactsVC table
* Began alphabetical sectioning with NSPredicate filtering

Searched for Android developers through LinkedIn Recruiter Lite (Premium)

* Search by region, UW affiliation, and graduation date
* Sent InMail to 3 candidates and starred 10 others

Saturday 5/30

Rewrote contactsVC

* Introduced (NSMutableArray \*) tableContent to encapsulate all data and UI state info
  + Documented internal structure in contactsVC.m interface
* Factored out state toggling behavior and checkbox tagging into separate methods
* Removed All Friends option

**Week 2**

Sunday 5/31

Moved AB data read/save function from LinkMeUpAppDelegate to Data.m

* Introduced local storage of AB data
  + Changed suggestions code to use local data
* Disabled FB suggestions

Committed changes to branch SMS\_links

Sending to non-LMU users

* Wrote logic for determining list of contacts that are not LMU users
* Refactored phone number comparison methods to Constants.m
  + Only two phone number variants considered - with and without country code
* Tried to resolve contactsVC dequeueReusableCellWithIdentifier bug
  + Inconsistency between cell and checkbox state
    - Outlined cell/clear checkbox and clear cell/green checkbox
  + Tracked indexPath and UIControl state of checkboxes across selection/deselection
  + Resolved by creating new cell every time in –cellForRowAtIndexPath
* Displaying LMU friends and non-user contacts
  + Contact added to link’s receivers field only if LMU user
  + Tried to use contact[@“objectId”] == nil comparison to determine whether contact is PFUser (user) or NSDictionary (non-user)
    - Comparison yields nil for PFUser as well as NSDictionary
  + Resolved by populating tableContent in two separate iterations
    - Non-user contacts listed after LMU friends

Committed changes to branch SMS\_links

* Multiline commit message with open single quotes

Contacted Shock Family about launch screen designs

Monday 6/1

Contacted Android developers through LinkedIn Recruiter

* Sent InMail to 5 candidates and PM to 1
* Revised and finalized message template

Added field @“nonUserContact” = @YES to non-user contact NSDictionary

* Tests whether field is nil to determine if LMU user
* Sorts array of all contacts and populate tableContent in one iteration
* Displays detailTextLabel “LinkMeUp” if app user

Tested +(BOOL)comparePhone1: withPhone2:

* Fixed variable name ambiguity

Changed PFQuery limit of 100 objects to 1000 for relevant Parse queries in Data.m

Reverted to populating tableContent in two iterations

* LMU friends and non-user contacts now sorted separately by name
  + LMU friends additionally sorted by username
  + “Name else username” sort descriptor not implemented

Pushed branch SMS\_links to GitHub with -u (--set-upstream) option

Researched sending text messages to multiple recipients without presenting Messages UI

* Sending SMS from User A to User B through Twilio

Tuesday 6/2

Messages UI presented on selecting non-user contact

* Constructs YouTube link if video
* Appends user annotation and “Sent via LinkMeUp, available at …”
  + Tried making LinkMeUp an HTML link to App Store
* (NSIndexPath \*) lastSelected field
  + Deselects recipient if text message cancelled
  + Takes to inbox if successfully sent

Considered UI flow for multiple non-LMU users and LMU friends/non-user combination

* Researched app deep linking

Sent InMail to 3 Android developers candidates

Obtained @linkmeupmessenger.com email domain through Google Apps for Work

* Created samvitj@, jobs@, and support@
* Updated website

Made LinkedIn page for LinkMeUp

Fixed build error in SamvitJainCV by targeting iOS 8 only

Learned Swift through Apple Guided Tour and Playgrounds

* Completed tutorial up to Functions and Closures
* Explored optional chaining, nil coalescing, type casting, and closure syntax

Wednesday 6/3

Committed and pushed changes to SMS\_links

* Tried out git checkout master command

Researched sending from external service using user’s phone number

* Tried to configure Twilio account/Parse cloud code (main.js) to send verification text from “LinkMeUp” instead of Auburn, WA number

Created two different text messages depending on whether user specifies link annotation

Added activity indicator to searchResultsVC

Committed and pushed changes to SMS\_links

* Used git commit -m amend “…” to revise previous commit message

Researched messaging to multiple recipients individually with Messages UI

Developed and implemented UI flow for selecting/sending to multiple users/non-users

* -animateSendButtonInDirection method written
* Four cases considered, depending on whether 1) user or non-user is selected and 2) if users previously selected
  + Created anyContactsSelected method which takes function argument to determine if any contacts selected, any users selected, or any non-users selected
* MFComposeMessageVC slow and laggy on iPhone 5/iOS 7

Tested on iPhone 6/iOS 8

* Found/resolved bug in pendingRequestsQuery
  + Nil assignment to (NSMutableArray \*) newPendingRequests for deleted user
  + Did not investigate stack trace for crashing/freezing thread
* Learned that ABAddressBookCreateWithOptions()returns non-null value even when access permission has not been granted
  + Data loading methods proceed as if address book is in fact empty

Wrote logic for presenting Messages UI for multiple non-user recipients

* Introduced queue nonUsersSelected
* Problem in presenting MFMessageComposeVC multiple times in succession (iPhone 6)

Thursday 6/4

Changed and finished UI flow for selecting/sending links to users/non-users

* Removed nonUsersSelected queue
* Selecting LMU users disables all non-users
  + Can send link to either 1 non-user or multiple LMU users

Contacted 2 more Android developer candidates

* Customized message extensively

receiversData for link sent to non-user contact

* Created isText field on Link class to record if link sent to in-app users or as text message
* Displayed alias name “Text sent to \_” in inboxVC

Committed and pushed changes to SMS\_links

Completed Objects and Classes section of Apple’s Guided Tour of Swift

Committed and pushed changes to SMS\_links

“Recents” section in contactsVC table view

* Considered dynamically calculating recent link recipients from sentLinkData
* Introduced PFUser property recentRecipients in Parse and Data.m
* Updated logic in contactsVC (-postLinkAndSendPush, -populateTableContent, and –viewForHeaderInSection)
  + Remove redundant saveInBackgroundWithBlock call in -postLinkAndSendPush

Committed and pushed changes to SMS\_links

Friday 6/5

Finished “Recents” section in contactsVC table view

* Content for “Recents” section set in –populateTableContent
  + Resolved "NSInternalInconsistencyException, Key “isText” has no data, Call fetchIfNeeded before getting its value” error message/crash by clearing incorrect data in Parse column recentRecipients
* Counterpart for cell in “Recents” section selected with call to [self.tableView reloadData]
* recentRecipients array reversed in table view to present most recent first
* “Recents” section skipped in -postLinkAndSendPush to prevent double sending
* Set section index title for “Recents”
  + Unicode character for watch defined in Constants.h

Committed and pushed changes to SMS\_links

UI improvements to contacts VC

* Footer to tableView added when send link button present
* Created subclass of UITableViewCell
  + Main text label shortened (text automatically truncated with ellipses)
  + Image view added to all cells
    - App icon for LMU users
    - Messages icon for non-users

Committed and pushed changes to SMS\_links

Sent InMail to 2 Android developer candidates

Started work on labeling Send Link button with all link recipient names

* Introduced selectedRecipients field in contactsVC (and -updateRecipientList method)
* Added UITextView in contactsVC.xib file and started –updateSendButtonText method

Found bug in “Recents” section logic

* Tested on iPhone 6
  + Selecting and sending to non-user contact adds extra (wrong) contact to Recents section
  + Sending to multiple LMU users adds duplicate entries
* Issues identified
  + Selected state not set to YES for non-user contacts in –toggleStateForIndexPath before Messages is launched
  + recentRecipients field saved in loop instead of outside in –postLinkAndSendPush

Saturday 6/6

Fixed bug in “Recents” section log

* Caused by accidently modifying self.sharedData.recentRecipients instead of self.selectedRecipients in –updateRecipientList (new method)
* Moved code saving recentRecipients to Parse out of for loop
* Cell state set before message compose interface displayed in –toggleStateForIndexPath
  + Used [self.selectedRecipients count] to determine table view state

State variable nonUserSelected replaced by use of (BOOL) nonUsersDisabled and self.selectedRecipients

Tested memory usage of contactsVC table view with Instruments

* Insignificant compared to memory usage of inboxVC, linkVC, and searchResultsVC

Committed and pushed changes (twice) to SMS\_links

Continued work on Send Link button label

* Tried disabling vertical scroll by setting button contentSize
* Introduced programmatically created textView to replace recipientTextView created in IB

Researched best practices for declaring dictionary keys as constants

**Week 3**

Sunday 6/7

Setup GitHub repository LinkMeUp-Android for Android app

Researched marketing components and strategies

* YourAppReport.com checklist and packages, 148apps.com, and Quora answers

Decided on AdobePhotoshop (vs. Gimp) for app launch screen

Created scrollable label containing recipient names for Send Link button

* Embedded UILabel inside UIScrollView
* Set UIScrollView contentSize and UILabel frame to expand dynamically with text length
  + ScrollView contentOffset dynamically updated to show right end of name string
* Used first names if possible
  + Introduced key @“first\_name” to address book contacts’ NSDictionary

Committed and pushed changes to SMS\_links

Started reading objc.io/ document “Android 101 for iOS Developers”

Improvements to Send Link button scrollable label

* Disabled touch event causing button press on left end of button
  + Adjusted scrollView frame to begin at left end of button
  + Set up method –updateSendButtonLabel with global constants leftOffset and rightOffset declared in Constants.h
* Allowed touch event on blank space to right of name string to cause button press
  + scrollView frame also set to match length of name string, if shorter than original frame width
* Tried to set textLabel highlighting behavior on click to match that of UIButton title label
  + Set highlightTextColor and declared selector and target method for UIButton
  + Could not detect event to unhighlight textLabel at right time

Searched for Android developers in local network

* Sent InMail to 2 more candidates

Monday 6/8

Read “The Right Way to Ask Users for iOS Permissions” (LinkedIn)

Added case to findContactsVC and verificationVC dismiss flow for existing user

* Existing user case not tested

Interviewed Calvin Hsieh

Matched textLabel highlighting behavior to Send Link button titleLabel highlighting

* Implemented target methods for touch events DragExit and DragEnter
* Animated change in textLabel transparency
* Tried enabling button press when Send Link button textLabel/scrollView tapped
  + Experimented with UITapGestureRecognizer and its delegate
  + Considered using touchesBegan: withEvent: to detect beginning of touch
    - Requires subclassing UIScrollView, so decided against it

Committed and pushed changes to SMS\_links

Changed SMS link content

* Removed phrase “Check out…” from blank annotation case
* Added short Twitter download link to end of text message
  + Tried Apple short link www.appstore.com/linkmeup
    - Didn’t work on mobile
  + Tried itms:// to link directly to App Store (avoid redirect)
* Researched adding HTML link and embedded YouTube video to text message

Push notification permissions flow

* Introduced pushNotifViewController
  + Added informative message explaining why notifications are important to user
  + Added iPhone 6 screenshot of Banner notification
    - Configured for iPhone 6, but not iPhone 4 or 5
    - Linker error when running app on iPhone 5s simulator
* Moved permissions request from DefaultSettingsVC to pushNotifVC
  + Added boolean field to PFUser called didAskPush
  + pushNotifVC presented after first sent link or after second app launch, whichever comes first

Committed and pushed changes to SMS\_links

Tuesday 6/9

Moved presentation of push notif screen in inboxVC to occur after links finish loading

Introduced macros detecting iPhone 4 - 6P in Constants.h

* Used to conditionally set screenshot frame in pushNotifVC
* iPhone 5, 6, 6P Simulator screens all detected as iPhone 5

Duplicate symbol for architecture i386 linker errors when building for simulator

* Resolved by declaring consts in Constants.h as static

Tested pushNotifVC screenshot on iPhone 5s simulator and inboxVC presentation on iPhone 4s device

Reorganized Constants.h/.m files

* Declared consts as extern in Constants.h and defined in Constants.m to avoid multiple imports and follow best practices
* Added #pragma mark section headers
* Began declaring NSNotification names and dictionary keys as string constants.

Committed and pushed changes to SMS\_links

Introduced better macro definitions for detecting iPhone 4 - 6P

* New definitions didn’t work either (iPhone 6 device detected as iPhone 5)
* Resolved issue – missing iPhone 6 launch screen results in iPhone 5 screen size setting
  + Temporarily disabled iPhone 6 and 6P macro options

Push notification screen for users who have denied access permission previously

* Created method in AppDelegate called –getEnabledNotificationTypes
  + Contains iOS version conditional logic for determining enabled notifications previously contained in -applicationDidBecomeActive
  + Returns UIUserNotificationType
* Introduced (and tested) alert in pushNotifVC requesting user to turn on push notifications from Settings panel
* Introduced NSInteger field to PFUser called numberPushRequests
  + Push notification screen presented if UIUserNotificationType is None and if numberPushRequests < PUSH\_REQUESTS\_LIMIT
  + Began replacing old logic involving didAskPush

Wednesday 6/10

Conditional presentation of pushNotifVC

* Notifications must be turned off – UIUserNotificationType is None (6/9)
* numberPushRequests < PUSH\_REQUESTS\_LIMIT
* Didn’t already present pushNotifVC in this PFUser session
  + Introduced NSUserDefaults field to track if pushNotifVC already presented
  + Not working – didAskPushThisSession always @NO in -launchReturning

Committed and pushed changes to SMS\_links

Enabled sending to suggested friends and friend request senders in contactsVC

* Section “LMU users” added to contactsVC table if number of LMU connections small

Committed and pushed changes to SMS\_links

Technical interview with Calvin Hsieh

Finished push notification permission and re-request flow

* Fixed NSUserDefaults bug - didShowPushVCThisSession now set in AppDelegate instead of viewDidAppear of DefaultSettingsVC (to prevent reset)
* Changed pushNotifVC screenshot to New Link image (instead of Loved Link)
* Returns to app only if user selects *some* option on default push notification alert view
  + Used two NSUserDefault fields in AppDelegate to track whether app temporarily exited (alert view shown)
  + If default alert view not shown, custom alert view presented after 1 second
  + Tested flow on iPhone 4s, iPhone 5s (simulator), and iPhone 6

Committed and pushed changes to SMS\_links

Searched for Android developers on LinkedIn

Thursday 6/11

Introduced conditional App Store link to text message

* Appends App Store link if greater than SEVERAL\_RECENTS recent contacts

Address book permission and re-request flow

* Introduced field numberABRequests and macro MANY\_CONNECTIONS
* Created method in friendsVC to determine if findContactsVC should be presented
  + Method call in –viewWillAppear, then moved to -viewDidLoad to avoid warning
  + Create NSUserDefault didNotYetEnterFriendsVC to avoid presentation to new user during first visit to friendsVC

Sent InMail to 7 Android developers

Address book screenshot

* Introduced screenshots AddressBook4 (iPhone 4) and AddressBook5 (iPhone >=5) to illustrate permission requested

Investigated crash on background thread during signup flow in findContactsVC on line

if (ABAddressBookGetAuthorizationStatus() == …NotDetermined)

* Used presence of shared data model to determine if findContactsVC presented in signup flow (as opposed to friendsVC)
  + Replaced by use of NSUserDefault didNotYetEnterFriendsVC
  + Crash still persists

Friday 6/12

Tested sign up flow – no crashes in findContactsVC

Moved presentation of findContactsVC to –viewWillAppear in friendsVC

Modified address book and push notification custom alert view message

Presentation of findContactsVC in contactsVC

* Introduced –hasContacts method
  + Fixed mistake in –didFinishLoadingConnections logic
  + findContactsVC presented after 1 second of viewDidLoad if permission not granted, less than AB\_REQESTS\_LIMIT requests, and 0 contacts

returnAndLaunch logic in findContactsVC

* Check if presenting view controller is verificationVC to determine if in sign up flow
* Dismiss presenting view controllers appropriately

Changed confusing didNotYetEnterFriendsVC property to didEnterFriendsVC

* findContactsVC presented in viewDidLoad of friendsVC if old user
* findContactsVC resented on second viewWillAppear if new user

Committed and pushed changes to SMS\_links

Added Documents folder to master and merged branch SMS\_links into master (3-way merge)

Reintegrated Facebook connections as a source of friend suggestions

* Parallel queries for LMU users among address book contacts and among Facebook friends in –loadSuggestions method in Data.m
* When both queries finished, suggestions lists merged
* Introduced sharedData property hasAddressBookAccess

Committed and pushed changes to master

Tried to configure iPhone 6 launch screen

* Deleted derived data, reset iPhone, checked that “Launch Screen File” was unselected

Researched mobile music streaming services and SoundCloud API

Posted job to Lakeside Hackers Facebook group and messaged Newport Computer group admin