**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

Replaced expired development certificate

**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

Interview (phone screen) with 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

Interview (technical) 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 group and messaged Newport Computer Group admin

Saturday 6/13

Committed and pushed changes to master

Posted job to Newport Computer Group and messaged Skyline groups admin

Created branch single\_search

Removed send song option from searchViewController

Tested different search bar configurations and searchVC UI layouts

* Tried orange header and using a navigation bar
* Set searchVC background to white

Fixed button array bug/crash in friendsVC

* Created initializeSuggestionButtons and initializeRequestButtons methods to replace lazy instantiation of buttons (which didn’t work)

Researched mobile music streaming services – Spotify, Rdio, Last.fm, Bop.fm

Posted to Skyline Class of 2016 Group and replied to applicant questions

**Week 4**

Sunday 6/14

Tried to configure iPhone 6 launch screen by using xib file

Researched bop.fm

Search bar and searchVC appearance

* Set autocomplete row height based on device type for new
* Experimented with different color schemes (header/screen/button)
* Experimented with different search bar styles and positions
* Activity indicator for autocomplete results
  + Added to searchDisplayController tableView to replace “no results”
  + Stopped animation on main thread after autocomplete results load

Investigated blocking of user interface when sent and received links load (especially pronounced on LTE on iPhone 6)

* Tried loading link art on low priority concurrent queues (instead of default)

Tried to configure launch screen by also setting iPhone 5 screen and using Apple screen names

Messaged Interlake and Tesla High Facebook group admins to post hiring message

Committed and pushed changes to single\_search

Monday 6/15

Changed simulated size of all xib files to iPhone 4-inch

Enabled Launch Screens for iPhone 5 and 6

* Added UILaunchImages array to LinkMeUp-Info.plist file

Experimented with search bar text field

* Found text field via by traversing subviews of UISearchBar in –layoutSubviews method
* Customized text field layer.borderColor, borderStyle, frame, and font

Experimented with animation of search bar

* iOS 7 – no animation occurs if frame animated in search bar delegate methods (beginEditing, endEditing) or keyboard notification delegate methods (willShow, WillHide)
* iOS 8 – animation glitch; search bar returns to original position after animation

Enabled Launch Screen for iPhone 4

Configured DefaultSettingsVC background to match Launch Screens

* Added full screen subview of appropriate size (using IS\_IPHONE\_5 macro)
* Adjusted loading/welcome label frame in sign up flow

Compared YouTube VEVO and syndicated video queries

* VEVO videos (apparently) now syndicated, so included in both lists
* Removed videoSyndicated = @"true" in non-VEVO query and could not find unplayable video (among queries for “maroon 5”, “kendrick lamar”, and “taylor swift” with maxResults = 10)
* Set maxResults for syndicated query to 15 if iPhone 5 or above
  + Tested by playing videos and loading ~200 links – no memory pressure warning

Stanford CS 193P, Winter 2015

* Finished Lecture 1: Logistics, iOS 8 Overview (~30 min)
* Started Lecture 2: More Xcode and Swift, MVC (~10 min)

Tuesday 6/16

Compared GTLQueryYouTube results for syndicated = any, true with web results

* Top 10 results for “stephen colbert” same whether syndicated = any, true
  + Matches web results, though order is not the same
* Top 30 results for “maroon 5” when syndicated = true *excludes all VEVO videos*
* Top 10 results for “key and peele”, “epic rap battles”, and “collegehumor” match web results when syndicated = true (with slight variations in order)

Send to self option

* Set display name to “me” in inboxVC and name + “ (me)” in contactsVC
* Self receiver data entry not presented in sentLinkVC message table
  + Resolved fast enumeration bug by adding break statement after removing object

Removed contact from “LinkMeUp Users” section in contactsVC if already present in “Recents”

Disabled messages button in sentLinkVC toolbar if link is text message or only sent to self

Moved recent recipients loading statement to beginning of –loadSuggestions method in Data.m

* Resolved bug in which “Recents” section would be empty if no address book access

Committed and pushed changes to single\_search

Tried to resume YouTube audio playback after pause on app exit

* Tried listening for AVAudioSessionInterruptionNotification – never called

Interview (phone screen) with Sean Yu

Tried to find API information for trending videos on YouTube

Changed push notification screenshot to image of badged app icon (PushNotifBadge.jpg)

Experimented with search bar height and drop shadow

* Found UIImageView subview of searchDisplayController.searchResultsTableView
* Tried to adjust frame in viewDidAppear and –searchBarShouldBeginEditing

Continued watching Lecture 2: More Xcode and Swift (~20 min)

Messaged ICS Class of 2015 admin

Wednesday 6/17

Brainstormed marketing and release work to do

Redesigned searchVC

* Introduced magnifying glass icon and multiline caption
  + Tested three different images and adjusted image/caption colors
* Moved YouTube search bar to top of view (adjacent to header) and enabled gray border
* Removed (hid) search bar button
* Animated icon and caption on search bar click
  + Screen content moved up and down in -searchBarShouldBeginEditing and –searchBarShouldEndEditing delegate methods
  + Configured animation parameters for iPhone 4 and iPhone 5+

Interview (technical) with Sean Yu

Addressed some special cases involving icon and caption animation

* Scroll gesture on searchDisplayController table view results in call to –searchBarShouldEndEditing, but should not shift content back
  + Content shifted back only if searchDisplayController is not active
  + This change breaks correlation between up/down animations
* Introduced BOOL shiftedContent to track state of screen contents
  + Content position reset in viewWillAppear via –resetScreenContents
* Click on header dismisses keyboard, but –searchBarShouldEndEditing not called so content does not shift down (as it should)
  + Screen contents moved down in –handleTap if tap falls outside table view
* Remaining case: screen contents move down after autocomplete result is selected (due to call in –handleTap) but should not for best user experience

Thursday 6/18

Fixed contactsVC sendLink button bug

* Selecting LMU user, going back to searchResultsVC, and returning to contactsVC previously caused sendLink button to disappear
* Instead of animating button frame on selection/unselection, animated autolayout constraint

Addressed undesirable shift down of searchVC content on hitting “search”

* Screen contents only shifted down in -handleTap if user taps in header view
  + Used –locationInView and -hitTest:tappedPoint to determine view tapped (required because tap gesture recognizer is added to *superview*)
* Autocomplete entries now easier to select (added benefit)
  + Table view and keyboard not dismissed if UITableViewCellContentView selected

Tried to address searchDisplayController table view scroll behavior

* Scrolling table hides keyboard but leaves content shifted up (undesirable)
* Returned NO in –searchBarShouldEndEditing delegate method if searchDisplayController active
  + Caused undesirable, irreversible disappearance of keyboard on leaving and returning to searchVC

Fixed bug in “Recents” section of contactsVC

* Recent LMU recipients not displaying if LMU Users section present
  + Recents section previously populated by searching for user in tableContent and creating pointer to existing contactAndState dictionary
  + Added logic on Tuesday (6/16) in which entries present in recentRecipients are omitted from “LMU users” section
* Resolved by creating new contactAndState dictionary for LMU users in “Recents” section if “LMU Users” section present (total number of contacts is small)

Addressed slow link art loading by replacing synchronous [NSData dataWithContentsOfURL:] with [[NSURLSession sharedSession] dataTaskWithURL: completionHandler:]

* Link art now loads much faster and without (noticeably) blocking UI
  + Loading 28 links – 1.13 seconds with LTE and 0.03 seconds with Wifi
  + Loading 203 links – 5.1 seconds with LTE and 0.2 seconds with Wifi
* Researched proper usage of NSURLSession

Researched and experimented with lldb Xcode debugger

* Printed object values (with po command) to determine crash of occasional crash after logging out and quickly logging in again with Facebook

Researched caching on iOS file system

* Learned that data that needs to persist between app launches but can be recreated (downloaded) as needed should be stored in Library/Caches/

Committed and pushed changes to single\_search

Friday 6/19

Replaced all (active) instances of dataWithContentsOfURL and NSURLConnection with NSURLSession in searchVC, songInfoVC, and searchResultsVC

Tested common flows and user actions

* Tested signup flow on iPhone 6 with permissions on, denied, and not determined (for push notifications)
* Tried sending/accepting friend requests between iPhone 4 / iPhone 6
  + Push notifications did not trigger content load while in app on Badge push notification setting
  + Reverted to repeating, 10-second interval updates for Badge setting

Committed and pushed changes to single\_search

Set lastSenderUpdateTime on master link copies to match new user account creation time (instead of master link creation time)

Replaced old, photoshopped launch screens with new ones from IconShock

* Removed unused image folders (Login/Signup Background and Logos)

Committed and pushed changes to single\_search

Changed sendLink button behavior in contactsVC to trigger button action if names label pressed

* Tried to configure long press gesture recognizer to detect *touch* event and highlight text label – delegate method not getting called

Changed email verification setting to YES in Parse

* Configured SPF record in Weebly website settings to prevent spam filtering of emails from parseapps.com
* Uploaded user\_management file to hide Parse.com from app users during email verification/reset process, and instead display page on LinkMeUp domain

Researched screenshots and add message function of competing apps Rithm and PingTune

Changed logic in -handleTap: in searchVC to address UX bug

* Instead of testing if touch landed in header, now test if touch landed in any view except table view or cell content view

Committed and pushed changes to single\_search

Tested poor network connection behavior

* Discovered crash in friends tab when running app with poor Wifi connection
* Read Apple documentation on Real-World Networks
* Learned about and tested Network Link Conditioner tool

Saturday 6/20

Fixed bug/crash in friendsVC seen in poor Wifi connection after replicating with Network Link Conditioner

* Request/suggestion buttons now initialized in viewDidLoad regardless of whether loadedAllConnections is true
* Buttons re-initialized in delegate method -didFinishLoadingConnections if mismatch between number of contacts and number of associated buttons
* Introduced constants for NSNotifications loadedFriendRequests, loadedFriendList, and loadedConnections

Change data reload time interval to 30 seconds in AppDelegate.

Researched and tried implementing NSURLSessionConfiguration to set up NSURLSession’s in-built cache usage policy

* Followed Apple Documentation to setup defaultConfig object with cache path at /Library/Caches/ directory and NSURLRequestUseProtocolCachePolicy
* Sample code first placed in –loadReceivedLinks and –loadSentLinks
  + Warning messages logged
    - \_CFURLCache:RecreateEmptyPersistentStoreOnDiskAndOpen: create tables index failed
    - ERROR:\_CFURLCache:CreateTablesAndIndexes pragma auto vacuum - database is locked. ErrCode: 5
* Moved code first to AppDelegate (required importing AppDelegate in Data.m, which caused compiler errors) and then to separate initialization function in Data.m
* No noticeable speedup with using NSURLSession’s sessionWithConfiguration: self.defaultConfig over sharedSession
* Disabled and moved code to Data Caching section in Data.m

Committed and pushed changes to single\_search

Browsed top 100 songs, comedy videos, and movie clips to include in screenshots and as prepackaged links

* Found Uptown Funk (feat. Bruno Mars), Ghost (Ella Henderson), Waves (Mr. Probz), and Riptide (Vance Joy)
* Changed two prepackaged links
  + Halo | Beyonce to Ghost | Ella Henderson
  + Thank You | Dido to Waves | Mr. Probz

Investigated broken email reset/verification links

Fixed crash when loading data in account Test

* Empty strings assigned to receiverData name and identity fields if null

Created inboxVC screenshots with Uptown Funk, Sugar, Apple Watch, and Stolen Dance

* Compared simulator vs. device screenshots
* Tested with frames on mint and orange backgrounds

Added case to -handleTap method in searchVC

* Tap on search bar cancel button after returning from searchResultsVC no longer dismisses table view (instead, clears search bar)

Accidently amended changes to previous commit rather than creating new commit

* Made corrections to incorrect re-commit with further amends
* Used git reflog to view unabridged repo history
* Used git reset --soft HEAD@{3} to return repository to state before mistaken amend
* Readded project and created new commit
* Used git push origin single\_search –force to push changes to public repo (and rewrite its history)

**Week 5**

Sunday 6/21

Looked for videos to include as prepackaged links

* Looked through Inglorious Bastard movie clips and 2014 and 2015 Super Bowl ads
* Found Elon Musk: How I Became the Real ‘Iron Man’, Jennifer Lawrence on David Letterman, and Kim Kardashian T-Mobile ad

Sent new prepackaged links from LinkMeUp H.Q. account

* Tested new account creation on iPhone 4 and iPhone 6

Created employment contract

* Started free trial with LawDepot
* Defined start and dates, job description, compensation, place of work, vacation time, and confidentiality/non-compete agreement durations

Created “Select Video” screenshot

* Found Fun ft. Chris Brown by Pitbull
* Tried to change Chalkboard SE font to Gill Sans
* Created screenshot with proper push notification configuration on iPhone 4s, iPhone 5s, iPhone 6, and iPhone 6 Plus simulators

Brainstormed work to do and required time for Android application

Monday 6/22

Looked for movie clips to include as prepackaged links

* Looked through Dark Knight trilogy, Inception, and Skyfall
* Found Inception ending scene and 500 Days of Summer trailer

Sent revised list of prepackaged links from LinkMeUp H.Q. account

Researched salary for high school software engineering interns

Staged and created Inbox, Search, Send To, and Link screenshots

* Set up Sent tab in Test account inbox with links/reactions for Inbox screenshot
* Compared Select Video screenshot in gray and white background
  + Decided on gray background
  + Decided to use Search screenshot instead for second mobile App Store screenshot
* Researched screenshot requirements, guidelines, and recommendations
* Set up address book on iPhone 4 and 6 for Send To screenshot

Pushed changes to single\_search

Merged branch single\_search into master and pushed changes to remote

Created captions and frames for all screenshots

* Changed Inbox screenshot to include better title for Kim Kardashian Super Bowl ad
* Used Uptown Funk for Link screenshot instead of Love on Top
* Finalized captions for all 5 screenshots
* Helped develop frames and adjust caption positions for iPhone 4 / iPhone 6 screenshots

Updated App Store description document to focus on video sharing

Emailed Sean Yu to confirm in person meeting on Tuesday 6/23

Contacted Ishan Narula on Facebook and email, describing LinkMeUp internship opportunity

Committed and pushed changes to master

Uploaded iPhone 4 and iPhone 6 screenshots to iTunes Connect

* iPhone 6 screenshots with alpha channels and transparencies initially rejected
* Still pending – frames for iPhone 5 and iPhone 6 Plus screenshots

Tuesday 6/23

Prepared for in person meeting with Sean Yu

Met with Sean Yu and made summer internship offer

Update Version 2.0 submission info on iTunes Connect

* Added iPhone 5 and 6 Plus screenshots
* Updated Name, What’s New in This Version, Description, Copyright, and Keywords

Committed and pushed new screenshots to master

Update text message link content

* Removed condition (number of recent recipients > MANY\_RECENTS) on including App Store link
* Moved annotation to beginning of message (in front of URL)
  + Considered adding line break if last character of user annotation is punctuation mark and hyphen otherwise

Tested sign up flow on iPhone 4 (phone reset)

* Email verification switched to YES, but with Parse pages displayed
* Address book and push notification permission screens tested

Read about analytics and App Store keywords

* Modified App Store keywords to include “chat”, “free”, and “text” instead of “social” and “friends” after searching for popular messaging apps on https://sensortower.com/
* Read about campaign links on iTunes Connect
  + Began creating Google AdWords campaign for app to better understand Google users’ search behavior

Interviewed Ishan Narula (phone screen)

Finalized employment contract and sent to Sean Yu

* Tried creating contract with FormSwift
  + Contained unfavorable provisions
* Modified LawDepot contract on MS Word, deleting some bullet points and adjusting numbering accordingly
  + Considered highlighting relevant clauses
  + Instead created list of important sections to read
* Started DocuSign free trial
  + Tested by sending contract draft to samvit.jain@gmail.com
* Sent finalized PDF copy of contract via DocuSign link to Sean

Wednesday 6/24

Replied to Sean’s questions about Employment Contract

* Did more research on non-compete agreements

Emailed Mr. Minsk to get input on non-compete clause

Connections reloaded in findContactsVC if address book access granted (existing users)

Added PFUser column hasAddrBookAccess to track user's address book access permissions state

* State updated in Data.m's -updateAddressBookStatus method
* Used NSNumber numberWithBool to encase data model property as object for Parse

Addressed push notification alert view issue/crash (seen on Mom’s iPhone 4 / iOS 7.1.2)

* Removed call to dismissAndReturn from -didFailToRegister delegate method
  + Considered using additional NSUserDefault flag to track whether –didFailToRegisterForRemoteNotifications was called
* Moved code clearing NSUserDefault flags to dealloc
* Cleared NSTimer and set alert view delegate to nil in viewDidDisappear
  + Required creating view controller properties self.alertView and self.alertController
  + Properties initialized in viewDidLoad, instead of presentCustomAlertView
* Tested changes
  + Downloaded iOS 7.1 simulator
  + Tested pushNotifVC flow on iPhone 4s simulator (iOS 7.1 and iOS 8.3), Mom’s iPhone 4 (iOS 7.1.2), my iPhone 4s (iOS 7.1.1), and Ananya’s iPhone 6 (iOS 8)
  + Delay in calling AppDelegate method willResignActive after default alert view presented on Mom’s iPhone
    - Results in presentation of both default and custom alert views
    - Problem not present in last test on Mom’s iPhone
  + Tests on simulators / other phones successful

Committed and pushed changes to master

Set up Android development environment

* Updated Java Development Kit (jdk) and Runtime Environment (jre)
* Downloaded Eclipse
* Installed Android Developer Tools (ADT) and SDK packages

Researched production vs. development Parse databases and git workflows

* Read articles on git-flow (Vincent Driessen) and GitHub flow (Scott Chacon)
  + Learned about use of --no-ff flag to create separate merge commit

Modified non-compete clause in Employment Contract

* Defined “project or venture in competition” more specifically
* Excluded employment on an unrelated project at a big company from scope of clause
* Considered specifically defining nature of LinkMeUp’s business (music and video messaging, link sharing, spreading third party-generated content) in contract

Disabled NSLog messages from code, if not running in debug mode

* Added preprocessor macro DEBUG = 1

Committed and pushed changes to master

Prepared project for submission

* Change version and build to 2.0
* Created, validated, and exported archive as .ipa file

Explored Android codebase

* Viewed LinkMeUp-Android repository files on GitHub
* Tried to build Android project locally

Installed GitHub GUI for Mac

* Added and explored three local repositories

Thursday 6/25

Emailed Mr. Minsk modified non-compete agreement

Went through NSLog statements to ensure no critical code commented out in release version

Researched App Store name and keywords

* Changed named to “LinkMeUp!” for better branding

Uploaded archive to iTunes Connect and submitted application

Committed changes to master and tagged as v2.0

* Researched tagging and pull requests

Started implementing git development/production workflow

* Created branch develop via git checkout -b develop master
* Cleared unwanted, unstaged change via git checkout -- <filename>

Pushed archive commit to remote master

Created PowerPoint for Sean Yu

* Moved out of Documents folder to avoid git tracking of confidential information

Revised and sent new employment contract

* Modified non-compete agreement again based on Mr. Minsk’s language suggestion
* Created account and document on RightSignature
* Sent for signature to Sean Yu

Researched marketing

* Read about writing Press Releases and creating a Press Kit
* Read about the importance of having an app demo/promotional video
  + Contacted several app video developing services
    - Epipheo, Breadnbeyond, PreApps, AppDemoVideos
  + Found but did not contact
    - Apptamin, RawAppVice, Snappdemo
  + Watched several successful app videos
    - Mailbox, Messenger Valley, Music Messenger
* Created Reddit account

Started work on app video

* Used QuickTime to record iPhone 6 screen videos
  + Added to Documents/Promotional
  + Removed from source control via git rm --cached <filename>
    - Added files of type .mov to .gitignore to prevent future tracking
* Purchased song Waves to use as background music
* Set up iPhone for testing
  + Deleted unwanted sent/received links from Test account in Parse
  + Modified contactsVC contact list in new branch contactsVC-app-video
* Tried to import song into iMovie
  + Could not find timeline
* Downloaded Adobe Creative Cloud (Premiere Pro)
  + Created new project
  + Imported iPhone 6 screencast and Waves into timeline
  + Tried to adjust video frame/aspect ratio

Committed and pushed changes to develop

Friday 6/26

Conducted first day of work orientation for Sean Yu

* Exported data from Parse database and imported into development app LinkMeUp-Dev
  + Tested development app by using Parse keys for LinkMeUp-Dev in code
  + Created separate constants for development and production keys
* Added Sean as collaborator to LinkMeUp-Dev database and Android GitHub repo
* Answered questions on Skype and phone call

Created test app video

* Added iTunes track audio to Video 1 screencast

Started compiling list of beta testers

Exported and uploaded test app video

* Exported higher quality video “AppVideo – Test.mov” with HD1080i preset for QuickTime format
* Created YouTube account for samvitj@linkmeupmessenger (LinkMeUp)
* Uploaded test video to YouTube

Developed actual app video

* Set up account Will Hanson for screencast capture
  + Created account, added friends, sent links
* Shot two videos – “Video - Full” and “Video - Full 2”
  + Spliced videos together, combining best parts
* Changed code in branch contactsVC-app-video to display more VEVO videos
  + Used git stash to save uncommitted changes in branch develop
  + Made changes to branch contactsVC-app-video
  + Reverted working directory to original state via git stash pop
* Exported video “LinkMeUp Video.mov”
* Replaced iTunes track “Waves” with VEVO version audio (longer instrumental)
* Exported video “LinkMeUp Video – 2.mp4”
  + Optimized for web playback by using H.264 format and HD 1080p 29.97 preset

Refined app video

* Reshot horizontal scroll clip
  + Wanted clip with smooth scroll and few/no mistakes while typing message
* Edited ending to include longer movie trailer clip
* Exported video “LinkMeUp Video Final”
  + Researched frame rate, bitrate, and frame blending
  + Selected “Render at Maximum Depth” and “Use Maximum Render Quality”

Saturday 6/27

Read article on use of video for app marketing

* Found out about embedding video service Wisita

Prepared for and shot forwarding clip

* Removed App Store link and changed header of songInfoVC to “Forwarding…” in contactsVC-app-video branch
* Shot “Received Links Pause”, “Forwarding 1”, and “Keyboard Dismiss”
* Decided to edit clips instead of shooting further
* Exported mp4 video with link forwarding

Researched video uploading/embedding and how best to contact bloggers

Set up Google Apps billing

Exported with “match sequence settings” option

* Mpeg video with vertical black bar of 15 pixels on right (624 x 1080)
* Researched how to export video with non-standard dimensions (609 x 1080)

Cut mp4 video with online-video-cutter.com

Uploaded videos to website

* Uploaded mpeg directly to Weebly
  + Pro account required to publicly publish
* Read “10 reasons why you should never host your own videos”
* Decided to embed video hosted by external service
  + Made Wisita account and uploaded video
    - Embedded inline with html code
    - Adjusted dimensions, but resolution poor
  + Made Vimeo account and uploaded video
    - Embedded inline
    - Better resolution

Updated .gitignore with .mp4 and .mpeg format videos

Committed and pushed changes to develop

Contacted Nathan about building LinkMeUp website

Worked on exporting iPhone video with same dimensions as source video

* Exporting with H.264 format and Match source - high bitrate preset produced video of original size (752 x 1334)
* Exported small sample (Frame Test 1.mp4) to test

Researched and produced “Call to Action” screen

* Watched Mailbox and Music Messenger video endings
* Produced still frame in Photoshop
* Added still frame to end of video
  + Contacted ShockFamily about moving icon up in video
  + Exported Call to Action Test 1 and Test 2 and full Video 5

Speed up video in ending to match audio intensity

* Exported Ending Test 1 – 5
  + Edited out long action pauses and button presses
  + Crossfaded text message clips for smooth transition
* Produced Video 6

**Week 6**

Sunday 6/28

Searched for and added two web developer candidates to clipboard on LinkedIn

Uploaded and embedded app video

* Uploaded to Wisita and Vimeo
  + Looked into HD video setting on Vimeo
  + Read about Vimeo Plus
* Added Vimeo embed code to site

Researched app marketing and how to pitch to journalists/app reviewers

* Read article “25 Creative Ways to Promote Your App For Free”
* Learned about promo codes and beta testing
  + Can (should) provide journalists with promo codes to app
    - Before release, but after app is in “Ready for Sale” or “Pending Developer Release” state
  + External beta testers can be invited after Beta App Review
* Started document “Marketing Brainstorm”
  + Listed components of a successful pitch
* Found contact URLs for news and app review sites
  + TechCrunch, Mashable, Gizmodo, Wired, Verge
  + 148apps, Cnet Download, AppStoreApps, iDownloadBlog
* Tried to learn about how Snapchat was marketed

Submitted LinkMeUp for Beta App Review

* Sent invites to family members

Tried to change production app Parse email to samvitj@linkmeupmessenger.com

Looked for replacement for Waves

* Created Pandora station for Waves
* Contacted Sohum

Changed title/subtitle font on app website

Wrote email pitch

* App functionality description and distinguishing qualities
* Promotional materials (screenshots, video, website), promo codes, and launch info
* Short personal bio and contact details

Created Dropbox account for LinkMeUp to use to share screenshots

* Uploaded iPhone 6 screenshots with frames
* Tried to find short Dropbox link
* Tested link, by opening on computer without Dropbox installed

Found and read about appshout! marketing service

Imported Android repository

* Read about git submodules, pull requests, git pull/fetch, and pushing to remotes
* Used git clone https://github.com/SamvitJ/LinkMeUp-Android.git to create/import Android repository on local machine
* Changed Parse keys in res/values/strings.xml to LinkMeUp-dev keys
  + Need to open pull request to incorporate changes in remote

Discussed work to be done in Android

* Explored and listed necessary improvements to Send Link tab

Researched promotional materials

* Read about how to write effective Press Release
  + Read iPhone app news stories on TechCrunch
* Added Media/Press Kit components to “Marketing Brainstorm”

Monday 6/29

Skype call with Sean

* Discussed current state of Send Link tab in Android app and work to do

Looked into uploading high quality video

* Read Vimeo article on optimal Adobe Premiere Pro export settings

Call to action screen

* Sent IconShock png file with guidelines for desired icon position

TestFlight invites and testing

* Sent email invites via iTunes Connect
* Tested app on Ananya’s phone
  + Resolved push notification issue by resetting numberPushRequests in Parse

Helped Sean with pull requests

* Learned that pull request source and destination branches must be different
  + Could not create pull request from local master to remote master
* Explained difference between adding/committing in short Skype call
* Taught Sean how to create/checkout a develop branch via git checkout –b <branch-name>

Meeting with PreApps

Started writing Press Release

* Read app press releases on TechCrunch to get sense for writing style and contents
* Wrote headline and introduction
* Described differentiating features (2 paragraphs) and link messaging (1 paragraph)

Helped Sean with git

* Recommended that Sean install Cygwin and use CLI for git
* Guided Sean in individually adding and committing files to develop branch via git add <file-name> | git commit –m

Tested Sean’s changes and read about merging pull requests

* Used git fetch origin | git branch -r | git checkout -b sean-dev origin/sean-dev to download Sean’s changes and build his changes
* Read about Centralized Workflow and Feature Branch Workflow
  + Can merge remote branch via git pull origin <branch>
* Learned that git pull is an shortcut for git fetch | git merge FETCH\_HEAD
  + To merge remote branch, can equivalently run git fetch origin | git merge origin/<branch>

Searched for audio track for app video

* Jack White, Santana, and YouTube default music (basspartout, audio library)
  + Tested some default tracks by playing along with muted app video
* Contacted Zach Kendrick to ask for recommendations
* Asked several friends if familiar with Waves | Mr. Probz
* Watched Wisita video on choosing good background music for videos
  + Discovered Marmoset
* Browsed Marmoset for inspirational/exciting, pop/rock instrumentals

Tuesday 6/30

Purchased “design service” (moving icon up on Call to Action screen) on PayPal

Discussed work to do with Sean and sent Test Flight invite

Finished writing Press Release

* Finished paragraph on link messaging and wrote paragraph on existing user bases
  + Researched YouTube and smartphone usage statistics
* Wrote closing section on app launch schedule
* Added footnotes to cite external sources

Merged Sean’s (sean-dev branch) pull request

* Researched how to create a second branch with a pending pull request
  + Branching off existing branch versus off master and then rebasing
* Researched commands for pulling in merge commit

Trimmed app video

* In one audio track, trimmed beginning of song
* In another audio track, cut out riff from 20 second mark

Searched Marmoset for alternate audio track for app video

Uploaded remainder of press kit to Dropbox

* Press Release, App Store Description, Icon files, and Video

Got picture from Ananya for team bio section

Worked on new Call to Action screen

* Got .ai file of correct dimensions from IconShock
* Designed app store link screen
  + Tried to install GIMP
  + Replaced “LinkMeUp” with “www.appstore.com/linkmeup”
* Got screen without badge

Researched people/news agencies to contact

* Found Gigaom, Editor in Chief of TheNextWeb, and UK contact point for Wired
* Used LinkedIn to find contact info of tech journalists at major agencies

Emailed Epipheo with budget/time frame estimate and description of desired video

Researched marketing strategies

* How to market to teenagers
* App Store Optimization (ASO) and Search Engine Optimization (SEO)
  + Changed app name to include “Video & Music Messenger”
  + Changed some app keywords
* Read about advertising on YouTube, Spotify, and Pandora
  + Contacted Spotify and Pandora advertising

Reexported app video at ideal settings for Vimeo (Video 7)

Refined Press Release

Rewatched, edited, and exported video

* Reverted to long introduction with full audio track
* Adjusted ending fade times
* Exported video (Video 8)