Low Level Design

Web Application & iOS Application

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Albert Benedict
Danvers, MA
Good Will Semiconductors Inc.

Benjamin Smith
Amherst, MA
University of Massachusetts - Amherst

Cody Smith
Greenfield, MA
Greenfield Community College

Derek Patel
Boston, MA
Cool Startup Inc.

Eric Page
Boston, MA
Weird Company Name Inc.

Benjamin Smith

Primary Email
bensmith@example.com

School Address
71 President Dr. Room 404 1
Amherst MA 01003

College:
University of Massachu-
setts- Amherst

High School:
Danvers High School

Employer:
UMass Transit

Current City:
Amherst, MA

Hometown:
Danvers, MA

School Number
(413)321-4321

School Email
bsmith@notumass.edu

Personal Address
54 Imaginary St.
Danvers, MA 01212

Personal Number
(413)555-5555

Personal Email
cute_panda91@gmail.com

Delete Contact

KloudBook Inc. © Copyright 2014

Contact Search and Basic Search (within Kloud Contacts)

KloudBook

Kloud Contacts

Search (Albert)

Albert Benedict
Danvers, MA
Good Will Semiconductors Inc.

Find more contacts named Albert?

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Search Results Page

KloudB☁k

Search (Albert

Albert Adams
New Haven, CT
I'm not Creative Inc.

Albert Alien
Danvers, MA
Good Will Semiconductors Inc.

Albert Birch
New York, NY
NYC Mayor's Office

Albert Patel
Hartford, CT
Liberty Mutual Insurance

Refine your search

KloudBook Inc. © Copyright 2014

Search Selected Page (within Search Results Page)

KloudB☁k

Search Results   Advanced Search | Kloud Contacts | Settings | Log out

Search (Albert

Albert Adams
New Haven, CT
I'm not Creative Inc.

Albert Alien
Danvers, MA
Good Will Semiconductors Inc.

Albert Birch
New York, NY
NYC Mayor's Office

Albert Patel
Hartford, CT
Liberty Mutual Insurance

Refine your search

Cody Smith

Primary Email
aa@goodwill.fake

Work Address
71 Bee St.
Danvers MA 12345

College:
University of Massachu-
setts- Amherst

High School:
Danvers High School

Employer:
UMass Transit

Current City:
Amherst, MA

Hometown:
Danvers, MA

Work Number
(508)111-1111

Work Email
aa@goodwill.fake

Private Contact

☐ Personal Address

☐ Personal Number

☐ Personal Email

Request All:
☐ Work ☐ School ☐ Personal   **Send request**

KloudBook Inc. © Copyright 2014

Main group page

KloudB☁k

UMass Amherst   School
1263 contacts

Goodwill Semiconductor Inc.   Work
194 contacts

Kloudbook Inc.   Work
15 contacts

Smith Family Group   Home, Work
76 contacts

Create a group

Group name

Group description

Contact info shared?
- [ ] Work
- [ ] School
- [ ] Home

Create Group

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Group Selected Page (within Main group page)

KloudB☁k

UMass Amherst   School
1263 contacts

Goodwill Semiconductor Inc.   Work
194 contacts

Kloudbook Inc.   Work
15 contacts

Smith Family Group   Home, Work
76 contacts

UMass Amherst
1262 Contatcs

Description:

UMass Amherst is the flagship campus of the UMass system located in Amherst, MA

Shared:

School contacts

Invite contact:

Search your Kloud Contacts

Edit Group
View Contacts   Delete Group

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Group Contacts Page

KloudB☁☁k

Search

Albert Benedict
Danvers, MA
Good Will Semiconductors Inc.

Benjamin Smith
Amherst, MA
University of Massachusetts - Amherst

Cody Smith
Greenfield, MA
Greenfield Community College

Derek Patel
Boston, MA
Cool Startup Inc.

Eric Page
Boston, MA
Weird Company Name Inc.

Benjamin Smith

Primary Email
bensmith@example.com

School Address
71 President Dr. Room 404 1
Amherst MA 01003

School Number
(413)321-4321

School Email
csmith@notumass.edu

College:
University of Massachusetts- Amherst

High School:
Danvers High School

Employer:
UMass Transit

Current City:
Amherst, MA

Hometown:
Danvers, MA

Delete Contact

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iOS Application
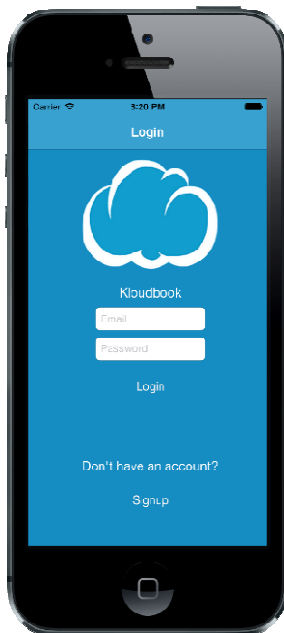
Figure 1: Login Screen

Class: Login
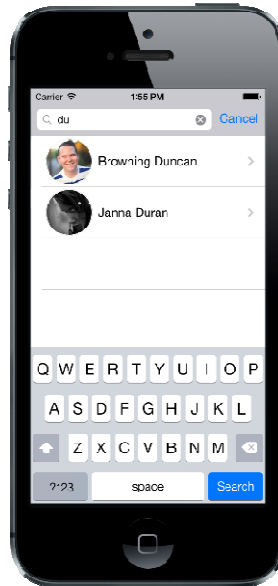
Figure 2: Searching Contacts

Class: ContactsList
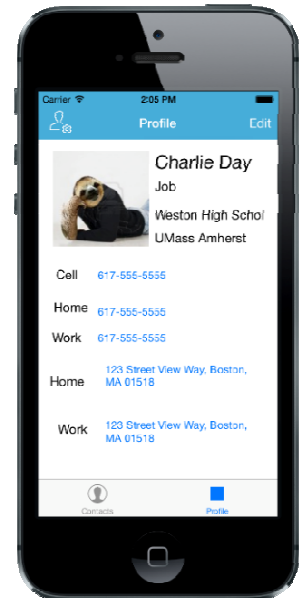
Figure 3: Profile

Class: Profile
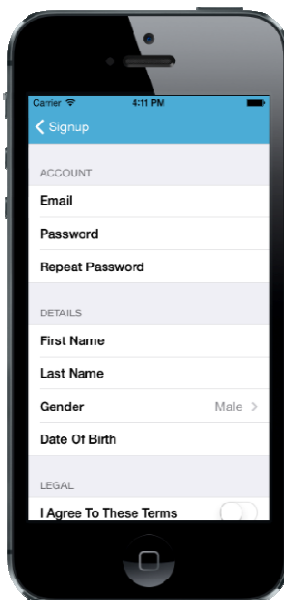
Figure 3: Sign up with Email

Class: SignUp
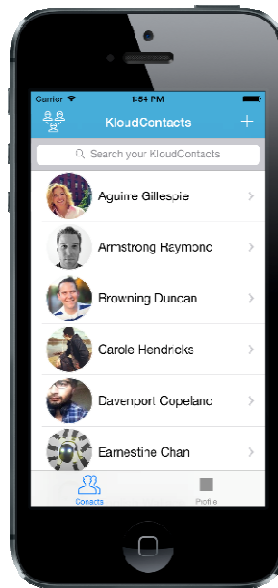
Figure 5: KloudContacts

Class: ContactsList
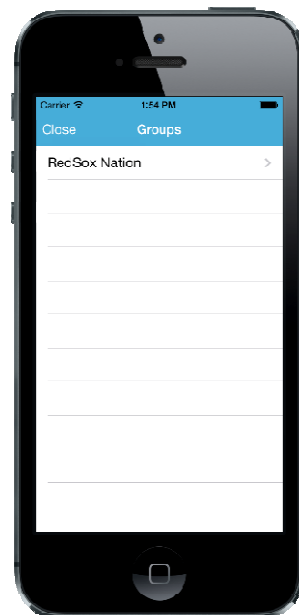
Figure 6: Groups

Class: GroupsList
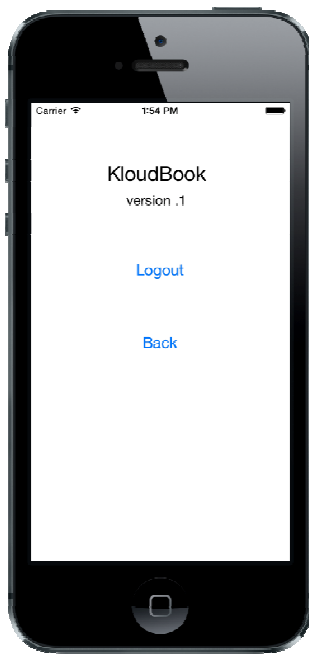
Figure 7: Settings

Class: Settings
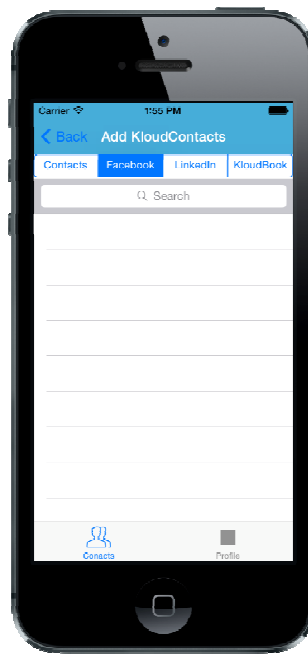
Figure 8: Add Contacts

Class: SearchAndAddFriends

Unit Testing

Web Application

ID	UT1
Description	Homepage Display
Setup	Go to Kloudbook.com

Expected Results	The following should be displayed:
	1. Kloudbook Logo
	2. Email and Password field with login button
	3. Video
	4. Signup Form
	    • First Name
	    • Last Name
	    • Email
	    • Password
	    • Date of Birth
	    • Gender
	5. Join Now and Signup with Facebook buttons

ID	UT2
Description	Profile Display
Setup	Go to Kloudbook.com/:userId

Expected Results	The following should be displayed:
	1. Kloudbook Logo
	2. Kloudbook profile navigation bar
	    • Logout
	    • My Groups
	    • My Profile
	    • Settings
	3. KloudContact Address Book
	4. If applicable, Contacts in address book
	    • First Name
	    • Last Name
	    • Profile Pic

ID	UT3
Description	Contact Display
Setup	Go to Kloudbook.com/:userId/:contactname

Expected Results	The following should be displayed:
	1. Kloudbook Logo
	2. Kloudbook profile navigation bar
	   • Logout
	   • My Groups
	   • My Profile
	   • Settings
	3. KloudContact Address Book
	4. Contacts on left side of address book
	5. Contact information of right side of address book
	   • First Name
	   • Last Name
	   • Picture
	   • Work
	   • College
	   • High School
	   • Cell
	   • Home
	   • Delete Contact

ID	UT4
Description	Group Display
Setup	Go to Kloudbook.com/:userId/:groupname

Expected Results	The following should be displayed:
	1. Kloudbook Logo
	2. Kloudbook profile navigation bar
	   • Logout
	   • My Groups
	   • My Profile
	   • Settings
	3. KloudContact Address Book
	4. Groups on the left side of address book
	5. Group information of right hand side of address book
	   • Group Name
	   • Group Description
	   • Picture
	   • View Contacts

	• Delete Group • Edit Group

ID	UT5
Description	Signup Display
Setup	Go to Kloudbook.com/signup/:step

Expected Results	The following should be displayed:
	1. Kloudbook Logo
	2. Step 2 fields
	    • High School
	    • College
	    • Employer
	    • Current City
	    • Hometown
	    • Create Profile button
	3. Step 3 fields
	    • Phone
	    • Address
	    • Add Contact Information button
	4. Step 3 fields
	    • Profile Picture
	    • Done button
	4. Signup Form
	    • First Name
	    • Last Name
	    • Email
	    • Password
	    • Date of Birth
	    • Gender
	5. Join Now and Signup with Facebook buttons

iOS Application

Very little if any computations occur on the iOS client. It is mainly issuing and receiving RESTful API calls, and displaying the results. Most of the basic logic comes from the View Controllers (displaying table views, posting an API call, etc). The View Controllers are mainly using the built in Apple supplied methods, which will not be tested.

Class: MappingProvider – the controller that handles creating the models
+ (RKMapping *) kbUserMapping
Input: JSON of connected users
Output: array of User models

+ (RKMapping *) kbGroupsMapping
Input: JSON of groups
Output: array of Group models

+ (RKMapping *) kbSearchMapping
Input: JSON of search results
Output: array of user models matching search

+ (RKMapping *) kbNotificationMapping
Input: JSON of notifications
Output: array of notification models

Class: SettingsViewController
-signOut
Assert that the keychain entry for user has been deleted

Integration Testing

Integration testing will ensure communication between the client and backend function as expected. Below are integration tests in curl format. All expected responses are in JSON.

ID	IT1
Description	Search - Accepts strings, searches by individual words or in the usage of quotations around query, will search entire quotation in the case of a school or university. Returns array of USER_json of possible results. Max possible size of array is 50 users.

RESTFul Call	GET: search?query=john&20smith
| **Expected Response** | ```json
{
        "query":"string",
        "email":"string",
        "gender":'char',
        "phonenumber": {
                "number":"string",
                "extension":"string",
                "country_code":"string"
        },
        "company":"string",
        "currentcity":"string",
        "firstname":"john",
        "middlename":"string",
        "lastname":"smith",
        "hometown":"string",
        "high_school":"string",
        "college":"string"
}
``` |

ID	IT2
Description	Edit Password: Takes TWO LOGIN_json. One with old password, another with the new password. Returns TRUE if completed successfully, FALSE if not.
RESTFul Call	POST {"oldPassword": "monkey", "newPasword": "monkey99" }
| **Expected Response** | ```json
{
        "message": "true"
}
```<br><br>OR |

	{
	     "message": "false"
	 }

ID	IT3
Description	Deactivate: Takes LOGIN_json. Deactivates account and removes user session. Returns TRUE if completed successfully, FALSE if not.
RESTFul Call	POST

Expected Response	{
	     "message": "true"
	 }
	
	 OR
	
	 {
	     "message": "false"
	 }

ID	IT4
Description	Add Friend: Takes CONNECTION_json and sends notification to other user to accept connection. Returns TRUE if completed successfully, FALSE if not.
RESTFul Call	POST

Expected Response	{
	     "message": "true"
	 }

	OR
	
	{
	      "message": "false"
	}

ID	IT5
Description	Accept Friend: Takes CONNECTION_json (Only connection_id required) and initiates the friend connection. Returns TRUE if completed successfully, FALSE if not.
RESTFul Call	POST (connection_id: bussiness, personal, or school.

Expected Response	{
	      "message": "true"
	}
	
	OR
	
	{
	      "message": "false"
	}

ID	IT6
Description	Remove Friend: Takes CONNECTION_json (only connection_id required) and deletes the connection. Other user sent notification of removal (Subject to change). Returns TRUE if completed succesfully, FALSE if not.

RESTFul Call	POST (connection_id: bussiness, personal, or school_

Expected Response	{
	    "message": "true"
	}
	
	OR
	
	{
	    "message": "false"
	}

ID	IT7
Description	Address Book: Returns array of FRIENDS_json. If optional parameter include_groups=true, then returns an additional GROUPNAMES_json.
RESTFul Call	GET or POST, (include_groups: true or false)

Expected Response	array of {
	    "user_id":[INT, INT, INT],
	    "name":["string", "string", "string"] //This will just be the full name of the user
	}
	OR (with include groups = true)
	array of {
	    "user_id":[INT, INT, INT],
	    "name":["string", "string", "string"] //This will just be the full name of the user
	}
	{
	    "group_id":[INT, INT, INT],
	    "name":["string", "string", "string"] //This will just be the name of the group
	}

ID	IT8
Description	Get Friend: Takes user_id of friend, returns full USER_json of that friend.
RESTFul Call	GET

Expected Response	{
	"userid":INT,
	"primary_email":"string",
	"gender":"char",
	"businessinfo": {
	    "address": {
	        "address1":"string",
	        "address2":"string",
	        "city":"string",
	        "state":"string",
	        "zip":"string"
	    },
	    "phonenumber": {
	        "number":"string",
	        "extension":"string",
	        "country_code":"string"
	    },
	    "company":"string"
	},
	"homeinfo": {
	    "address": {
	        "address1":"string",
	        "address2":"string",
	        "city":"string",
	        "state":"string",
	        "zip":"string"
	    },
	    "phonenumber": {
	        "number":"string",
	        "extension":"string",
	        "country_code":"string"
	    },
	    "currentcity":"string"
	},
	"name": {
	    "firstname":"string",
	    "middlename":"string",
	    "lastname":"string"
	},

```
"hometown":"string",
"high_school":["string","string"],
"college":["string","string"],
"mobilenumber": {
        "number":"string",
        "extension":"string",
        "country_code":"string"
},
"registered":LONG,
"birthday":LONG,
"socialmedia":[
        {
        "socialmediaurl":"string"
        },
        {
        "socialmediaurl":"string"
        }
],
"additionalemails":["string","string"],
"additionalnumbers":[
        {
                "number":"string",
                "extension":"string",
                "country_code":"string"
        },
        {
                "number":"string",
                "extension":"string",
                "country_code":"string"
        }
]
}
```

ID	IT9
Description	Get Group: Takes group_id of group, returns full GROUP_json of that group.

RESTFul Call	GET

Expected Response	{
	    "group_id":INT //Null if creating a group
	    "name":"string",
	    "description":"string"
	
	}

ID	IT10
Description	Create Group: Takes GROUP_json and returns are group with name and description
RESTFul Call	POST {name: cool group description: cool description }

Expected Response	{
	    "group_id":INT //Null if creating a group
	    "name":"cool group",
	    "description":"cool description"
	
	}

ID	IT11
Description	Edit Group: Takes GROUP_json (The group_id is required) and updates the group information. Current user must be an admin. Return TRUE if completed successfully, FALSE if not.
RESTFul Call	POST {name: new name description: new description }

Expected Response	{
	    "message": "true"
	}

	OR
	
	{
	      "message": "false"
	}

ID	IT12
Description	Edit Group: Takes GROUP_json (The group_id is required) and updates the group information. Current user must be an admin. Return TRUE if completed successfully, FALSE if not.
RESTFul Call	POST {name: new name description: new description }

Expected Response	{
	      "message": "true"
	}
	
	OR
	
	{
	      "message": "false"
	}

ID	IT13
Description	Invite Users: Takes array of user_id's wishing to invite. Users will be sent a notification to accept the invitation. Returns TRUE if completed successfully, FALSE if not.
RESTFul Call	POST
	{ "message": "true"

Expected Response	}
	OR
	{
	"message": "false"
	}

ID	IT14
Description	Join Group: Takes GROUPMEMER_json (The group_id and user_id are required) and adds that the user to the group. Return TRUE if completed successfully, FALSE if not.
RESTFul Call	POST
Expected Response	{
	"message": "true"
	}
	OR
	{
	"message": "false"
	}

ID	IT15
Description	Join Group: Takes GROUPMEMER_json (The group_id and user_id are required) and adds that the user to the group. Return TRUE if completed successfully, FALSE if not.
RESTFul Call	POST
	{

Expected Response	"message": "true"
	}
	
	 OR
	
	{
	         "message": "false"
	}

ID	IT16
Description	Leave Group: Takes GROUPMEMER_json (The group_id and user_id are required) and removes that the user to the group. Can be used by admin to forcibly remove users from a group. Return TRUE if completed successfully, FALSE if not.
RESTFul Call	POST

Expected Response	{
	         "message": "true"
	}
	
	OR
	
	{
	         "message": "false"
	}

ID	IT17
Description	Notifications: Returns an array of NOTIFICATIONS_json

RESTFul Call	GET

Expected Response	{
	  "message": "true"
	}
	
	OR
	
	{
	  "message": "false"
	}

Acceptance Testing

Web Application
Login/Signup Tests

ID	WLS1
Description	Creating an account by signing up
Setup	Go to Kloudbook.com
Instructions	1. Kloudbook logo, login, video, and signup sections appear 2. Under the signup section on the homepage, enter the following • First Name: Kloudbook • Last Name: User • Email: kloudbookUser@gmail.com • Password: fakepassword • Date of Birth: January 6, 1980 • Gender: Male 3. Click Join Now 4. Enter the following • High School: Weston • College: UMass Amherst • Employer: Google • Current City: Palo Alto • Hometown: Weston

	5. Click Create Profile 6. Enter the following • Phone: 555-555-5555 • Address: UMass Amherst 7. Click Enter Contact Information 8. Click Upload or Take A Picture 9. Picture box on page should change 10. Click Done

ID	WLS2
Description	Logging in to web application after signing up - already have an account.
Setup	Create an account by signing up with username: kloudbookUser@gmail.com and password: 'fakepassword'

Instructions	1. Enter email address <kloudbookUser@gmail.com> and
	   password <fakepassword> into email and password fields in the
	   login section
	2. Click Login

Expected Results	1. Route changes to Kloudbook.com/:userID 2. Kloudbook logo and profile navigation bar appears 3. The user's KloudContacts address book appears with user's contacts listed with there corresponding picture and name

ID	WLS3
Description	Creating an account by signing up through Facebook
Setup	Go to Kloudbook.com
Instructions	1. Click Signup with Facebook
Expected Results	1. Kloudbook logo, login, video, and signup sections appear 2. Under the signup section on the homepage, the following should be populated • First Name: Kloudbook • Last Name: User • Email: kloudbookUser@gmail.com

	• Date of Birth: January 6, 1980
	• Gender: Male
	3. When Join Now is clicked, the route changes, and the following
	might be populated
	• High School: Weston
	• College: UMass Amherst
	• Employer: Google
	• Current City: Palo Alto
	• Hometown: Weston
	4. When Create Profile is clicked, the route changes, the following
	might be populated
	• Phone: 555-555-5555
	• Address: UMass Amherst
	5. When Contact Information is clicked, the route changes, and the
	picture box on page should change to Facebook profile pic
	6. Click Done

Contact Display and Interaction Tests

ID	WCDI1
Description	Viewing contacts that are connected to logged in user <kloudbookUser@gmail.com>
Setup	1. User logs in 2. Remove all contacts from a user's contact list 3. Add the following users as connections to the user: • Aguirre Gillespie • Armstrong Raymond • Browning Duncan
Instructions	1. Display the KloudContacts address book
Expected Results	The following contacts are displayed, in this order, with both their picture and name shown: • Aguirre Gillespie • Armstrong Raymond • Browning Duncan

ID	WCDI2

Description	Selecting a user from the KloudContacts address book

Setup	1. Remove all contacts from a user's contact list
	2. Add user "Browning Duncan" to the database with the following
	   information:
	  • First Name: Browning
	  • Last Name: Duncan
	  • Picture: <Duncan.jpg>
	  • Work: Ziore
	  • University: duis University
	  • High School: cupidatat High School
	  • Cell: +1 (810) 504-2733
	  • Home: +1 (879) 556-3403
	  • Work: +1 (882) 536-2083
	  • Home Address: 835 Guider Avenue, Wells, New Jersey, 3827
	  • Work Address: 181 Gunninson Court, Rivera, Utah, 4105
	3. Add Browning Duncan as connection to user <kloudbookUser@gmail.com>, with access to all contact information.

Instructions	1. Display the KloudContacts address book 2. Click on the "Browning Duncan" contact.

Expected Results	The following information should be displayed
	  • First Name: Browning
	  • Last Name: Duncan
	  • Profile Picture: <Duncan.jpg>
	  • Work: Ziore
	  • University: duis University
	  • High School: cupidatat High School
	  • Cell: +1 (810) 504-2733
	  • Home: +1 (879) 556-3403
	  • Work: +1 (882) 536-2083
	  • Home Address: 835 Guider Avenue, Wells, New Jersey, 3827
	  • Work Address: 181 Gunninson Court, Rivera, Utah, 4105

ID	WCD13
Description	Viewing only accessed information
Setup	1. User logs in 2. Remove all contacts from a user's contact list 3. Add the following users as connections to the user: • Aguirre Gillespie

	• Armstrong Raymond • Browning Duncan 4. Browning Duncan only shares Business Information
Instructions	1. Click on Browning Duncan
Expected Results	1. The following appears on the screen. • Work: +1 (882) 536-2083 • Work Address: 181 Gunninson Court, Rivera, Utah, 4105

ID	WCDI4
Description	Delete a Kloudbook contact
Setup	1. Remove all contacts from a user's contact list 2. Add the following users as connections to the user: • Browning Duncan
Instructions	1. Click on contact Browning Duncan 2. Click on Delete Contact
Expected Results	1. When Delete is clicked, contact Browning Duncan is no longer in the address book 2. Address book is empty.

Add New Contacts Tests

ID	WANC1
Description	Request a connection from someone who is Kloudbook member
Setup	1. Remove all contacts from a user's contact list 2. Remove all contacts from Kloudbook database 3. Add the following users to the Kloudbook database: • Browning Duncan 4. Search for Kloudbook member, Browning Duncan
Instructions	1. Click Browning Duncan 2. Click Add 3. Selects to share all information with Browning Duncan
Expected Results	1. A request should be sent to Browning Duncan asking him for contact sharing access

| | 2. After confirmation, Browning Duncan should appear in KloudContacts address book. |

Notification Tests

ID	WN1
Description	Send Notification
Setup	1. Remove all contacts from a user's contact list 2. Remove all contacts from Kloudbook database 3. Add the following users to the Kloudbook database: • Browning Duncan 4. Search for Kloudbook member, Browning Duncan
Instructions	1. Click Browning Duncan 2. Click Add 3. Selects to share all information with Browning Duncan
Expected Results	1. A request should be sent to Browning Duncan asking him for contact sharing access 2. After confirmation, Browning Duncan should appear in KloudContacts address book.

ID	WN2
Description	Accept Notification
Setup	1. Remove all contacts from a user's contact list 2. Remove all contacts from Kloudbook database 3. Add the following users to the Kloudbook database: • Browning Duncan 4. Browning Duncan requests user's contact information
Instructions	1. Click Browning Duncan's request notification 2. Click Accept 3. Selects to share all information with Browning Duncan

Expected Results	1. Browning Duncan should appear in KloudContacts address book:
	   • First Name: Browning
	   • Last Name: Duncan
	   • Profile Picture: <Duncan.jpg>

ID	WN3
Description	Reject Notification
Setup	1. Remove all contacts from a user's contact list 2. Remove all contacts from Kloudbook database 3. Add the following users to the Kloudbook database: ● Browning Duncan 4. Browning Duncan requests user's contact information
Instructions	1. Click Browning Duncan's request notification 2. Click Reject 3. Selects to share all information with Browning Duncan
Expected Results	1. KloudContacts should be empty

Search Tests

ID	WST1
Description	Search for Valid Entry

Setup	1. Remove all contacts from Kloudbook database
	2. Add the following users to the Kloudbook database:
	    ● Browning Duncan
	3. Add the following group to the Kloudbook database:
	    ● Duncan Yo-Yo

Instructions	1. Click Search field 2. Enter "Duncan"

Expected Results	The following results are displayed:
	    ● Duncan Yo-Yo
	    ● Browning Duncan

ID	WST2
Description	Search for Invalid Entry

Setup	1. Remove all contacts from Kloudbook database
	2. Add the following users to the Kloudbook database:
	    ● Browning Duncan
	3. Add the following group to the Kloudbook database:
	    ● Duncan Yo-Yo

Instructions	1. Click Search field
	2. Enter "Dunkin"
Expected Results	The following result should be displayed:
	"Cannot find entry Emily Smith"

ID	WST3
Description	Search by a public contact information
Setup	1. Remove all contacts from Kloudbook database
	2. Add the following users to the Kloudbook database:
	● Browning Duncan:
	Hometown: Amherst
	3. Add the following group to the Kloudbook database:
	● Duncan Yo-Yo
	Hometown: Amherst
Instructions	1. Click Search field
	2. Enter "Amherst"
Expected Results	The following results should be displayed:
	● Duncan Yo-Yo
	● Browning Duncan

Settings Tests

ID	WS1
Description	Logout of Kloudbook.com
Setup	1. Login to Kloubook.com
Instructions	1. Click on Logout in Kloudbook profile navigation bar
Expected Results	1. Route should change to Kloudbook.com
	2. Homepage navigation bar should appear with login, video, signup
	sections appearing

ID	WS2
Description	Change password
Setup	1. Login to Kloubook.com

Instructions	1. Click on settings in Kloudbook profile navigation bar 2. Enter Current password in password field 3. Enter new password in new password field, "newfake" 4. Logout
Expected Results	1. Route should change to Kloudbook.com 2. User should be able to log in with new password, "newfake" and email address, <kloudbookUser@gmail.com>

ID	WS3
Description	Deactivate Account
Setup	1. Login to Kloubook.com
Instructions	1. Click on settings in Kloudbook profile navigation bar 2. Click Deactivate Account
Expected Results	1. Route should change to Kloudbook.com 2. User should login 3. User should see: "This account has been deactivated"

Group Tests

ID	WG1
Description	Creating a group
Setup	1. Remove all groups from database. 2. Click the groups tab in Kloudbook profile navigation bar 3. Click Create Group
Instructions	1. Enter the following information: • Group Name: Red Sox Nation • Description: A group for Red Sox fans • Profile Picture: <Red Sox.jpg>"
Expected Results	1. The following groups appear on the screen. • Red Sox Nation

ID	WG2
Description	Adding Kloudbook member to group

Setup	1. Remove all groups and users from database. 2. Click the groups tab in Kloudbook profile navigation bar 3. Click Create Group 4. Add the following users to the Kloudbook database: ● Browning Duncan
Instructions	1. Search for Kloudbook member, Browning Duncan 2. Click Add to Group 3. Click Red Sox Nation

Expected Results	1. Red Sox Nation should have two members:
	    ● Kloudbook User
	    ● Browning Duncan

ID	WG3
Description	Show user's groups

Setup	1. Remove all groups from database.
	2. Create the following groups:
	    ● Red Sox Nation
	    ● UMass Amherst
	3. Add Red Sox Nation and UMass Amherst as a group
	   <kloudbookUser@gmail.com> is a member

Instructions	1. Click on groups link in Kloudbook navigation bar

Expected Results	1. The following groups appear on the screen.
	    ● Red Sox Nation
	    ● UMass Amherst

ID	WG4
Description	Leaving a groups of which user is a member

Setup	1. Remove all groups from database.
	2. Create the following groups:
	    ● Red Sox Nation
	    ● UMass Amherst
	3. Add Red Sox Nation and UMass Amherst as a group
	   <kloudbookUser@gmail.com> is a member
	4. Click on groups link in Kloudbook navigation bar

Instructions	1. Click UMass Amherst 2. Click Leave
Expected Results	1. The following groups appear on the screen. ● Red Sox Nation

ID	WG5
Description	Deleting a group user created

Setup	1. Remove all groups from database.
	2. Create the following groups:
	    ● Red Sox Nation
	    ● UMass Amherst
	3. Click on groups link in Kloudbook navigation bar

Instructions	1. Click UMass Amherst 2. Click Delete
Expected Results	1. The following groups appear on the screen. ● Red Sox Nation

ID	WG6
Description	Show user's group contact list
Setup	1. Remove all groups from database. 2. Create the following groups: ● Red Sox Nation 3. Add Red Sox Nation as a group <kloudbookUser@gmail.com> is a member 4. Add Browning Duncan to Kloudbook database 5. Add Browning Duncan as a member of Red Sox Nation
Instructions	1. Click on groups link in Kloudbook navigation bar 2. Click on Red Sox Nation

Expected Results	1. The following group members appear on the screen
	    ● Browning Duncan
	    ● Kloudbook User

ID	WG7
Description	Editing a group by deleting member
Setup	1. Remove all groups from database. 2. Create the following groups: ● Red Sox Nation 3. Add Browning Duncan to Kloudbook database 4. Add Browning Duncan as a member of Red Sox Nation
Instructions	1. Click on groups link in Kloudbook navigation bar 2. Click on Red Sox Nation 3. Click on Browning Duncan
Expected Results	1. The following group members appear on the screen ● Kloudbook User

ID	WG8
Description	Editing a group
Setup	1. Remove all groups from database. 2. Create the following groups: ● Red Sox Nation
Instructions	1. Click on groups link in Kloudbook navigation bar 2. Click on Red Sox Nation 3. Click on Edit Group 4. Change group description to "This group is for Red Sox Fans Everywhereee" 5. Click on Save Changes
Expected Results	1. The following group description for Red Sox Nation appears: "This group is for Red Sox Fans Everywhereee"

ID	WG9
Description	Joining a group

Setup	1. Remove all groups from database.
	2. Create the following groups:
	   ● Red Sox Nation
	   ● UMass Amherst

Instructions	1. Search for group, Red Sox Nation 2. Click on Red Sox Nation 3. Click on Join
Expected Results	1. The following groups appear on the user's groups link: ● Red Sox Nation

iOS Application

Note: Unless specifically mentioned, assume all tests are done while logged in from the user <kloudbookUser@gmail.com>.

Login/Signup Tests

ID	LS1
Description	Logging in to iOS app after installation - already have an account.
Setup	Create an account with username: kloudbookUser@gmail.com and password: testPassword
Instructions	1. Install Kloudbook from App Store 2. Open App 3. Enter email address <kloudbookUser@gmail.com> and password <testPassword> into email and password fields 4. Tap Login
Expected Results	1. Login screen window should dismiss itself 2. The Kloud Contacts screen appears with user's contacts listed

ID	LS2
Description	Creating an account after App Installation -- Email option
Setup	Install iOS App

Instructions	1. Open Kloudbook
	2. Tap on Signup
	3. Tap "Signup with Email"
	4. Enter the following
	    • Email: kloudbookUser@gmail.com
	    • Password: testPassword

	• Password: testPassword
	• First Name: Kloudbook
	• Last Name: User
	• Gender: Male
	• Date of Birth: January 6, 1980
	5. Tap Next
	6. Enter the following
	   • High School: Weston
	   • College: UMass Amherst
	   • Employer: Google
	   • Current City: Palo Alto
	   • Hometown: Weston
	7. Agree to the terms
	8. Tap Signup

Expected Results	1. No error is received (an error appears when a signup request fails) 2. User is taken to "add friends" screen

ID	LS3
Description	Creating an account after App Installation -- Facebook option

Setup	Install iOS App
	Have a Facebook account with the following information attached:
	   • John Smith
	   • Home address: 123 Pleasant Street, Weston, MA 02493
	   • Cell Phone: 555-555-1234
	   • High School: Weston High School
	   • University: UMass Amherst
	   • Employer: Google
	Delete all Kloudbook accounts

Instructions	1. Open Kloudbook
	2. Tap on Signup
	3. Tap "Signup with Facebook"
	4. Tap "Allow" when asked for permission to use Facebook account
	5. User enters
	   • Email: kloudbookUser@gmail.com
	   • Password: testPassword
	   • Password: testPassword
	6. Fill in remaining information
	7. Tap signup.

Expected Results	1. The following information is already populated
	• John Smith
	• Home address: 123 Pleasant Street, Weston, MA 02493
	• Cell Phone: 555-555-1234
	• High School: Weston High School
	• University: UMass Amherst
	• Employer: Google
	2. After submitting all information and tapping submit, no error is received (an error appears when a signup request fails)
	3. User is taken to "add friends" screen

Contact Display and Interaction Tests

ID	CDI1
Description	Viewing contacts that are connected to logged in user <kloudbookUser@gmail.com>
Setup	1. Remove all contacts from a user's contact list
	2. Add the following users as connections to the user:
	• Aguirre Gillespie
	• Armstrong Raymond
	• Browning Duncan
Instructions	1. Display the "Contacts" screen
Expected Results	The following contacts are displayed, in this order:
	• Aguirre Gillespie
	• Armstrong Raymond
	• Browning Duncan

ID	CDI2
Description	The contacts search allows user to perform standard wildcard searches on first and last name.
Setup	1. Remove all contacts from a user's contact list
	2. Add the following users as connections to the user:
	• Aguirre Gillespie
	• Armstrong Raymond
	• Browning Duncan
	• Carole Hendricks
	• Davenport Copeland
	• Earnestine Chan

	● Janna Duran
Instructions	1. Display the "Contacts" screen 2. Tap on the "Search your KloudContacts" search bar 3. Type "du"
Expected Results	The following contacts are displayed, in this order: ● Browning Duncan ● Janna Duran

ID	CDI3
Description	Selecting a user after performing a search on their contacts list

Setup	1. Remove all contacts from a user's contact list
	2. Add user "Browning Duncan" to the database with the following information:
	    • First Name: Browning
	    • Last Name: Duncan
	    • Picture: <Duncan.jpg>
	    • Work: Ziore
	    • University: duis University
	    • High School: cupidatat High School
	    • Cell: +1 (810) 504-2733
	    • Home: +1 (879) 556-3403
	    • Work: +1 (882) 536-2083
	    • Home Address: 835 Guider Avenue, Wells, New Jersy, 3827
	    • Work Address: 181 Gunninson Court, Rivera, Utah, 4105
	3. Add Browning Duncan as connection to user <kloudbookUser@gmail.com>, with access to all contact information.

5	1. Display the "Contacts" screen 2. Tap on the "Search your KloudContacts" search bar 3. Type "du" 4. Select "Browning Duncan"

Expected Results	The following information should be displayed
	    • First Name: Browning
	    • Last Name: Duncan
	    • Picture: <Duncan.jpg>
	    • Work: Ziore
	    • University: duis University
	    • High School: cupidatat High School
	    • Cell: +1 (810) 504-2733
	    • Home: +1 (879) 556-3403

	• Work: +1 (882) 536-2083 • Home Address: 835 Guider Avenue, Wells, New Jersy, 3827 • Work Address: 181 Gunninson Court, Rivera, Utah, 4105

ID	CDI4
Description	Call a contact after selecting their name from their contacts list

Setup	1. Remove all contacts from a user's contact list
	2. Add user "Browning Duncan" to the database with the following information:
	   • First Name: Browning
	   • Last Name: Duncan
	   • Picture: <Duncan.jpg>
	   • Work: Ziore
	   • University: duis University
	   • High School: cupidatat High School
	   • Cell: +1 (810) 504-2733
	   • Home: +1 (879) 556-3403
	   • Work: +1 (882) 536-2083
	   • Home Address: 835 Guider Avenue, Wells, New Jersy, 3827
	   • Work Address: 181 Gunninson Court, Rivera, Utah, 4105
	3. Add Browning Duncan as connection to user <kloudbookUser@gmail.com>, with access to all contact information.

Instructions	1. View "Browning Duncan" by selecting him from the Contacts screen 2. Tap on his cell number 3. Tap Call
Expected Results	1. An alert box appears with the number "+1 (810) 504-2733" display. The options "Cancel" or "Call" are presented as options. 2. After tapping "Call", the standard iOS phone application opens, and calls the number

ID	CDI5
Description	View a contact's address in Apple Maps after selecting their name from their contacts list
Setup	1. Remove all contacts from a user's contact list 2. Add user "Browning Duncan" to the database with the following information:

	• First Name: Browning • Last Name: Duncan • Picture: <Duncan.jpg> • Work: Ziore • University: duis University • High School: cupidatat High School • Cell: +1 (810) 504-2733 • Home: +1 (879) 556-3403 • Work: +1 (882) 536-2083 • Home Address: 835 Guider Avenue, Wells, New Jersey, 3827 • Work Address: 181 Gunninson Court, Rivera, Utah, 4105 3. Add Browning Duncan as connection to user <kloudbookUser@gmail.com>, with access to all contact information.
Instructions	1. View "Browning Duncan" by selecting him from the Contacts screen 2. Tap on the address next to "Home Address"
Expected Results	1. After tapping on the address, Apple Maps opens. 2. The address: "835 Guider Avenue, Wells, New Jersey, 3827" appears on the map.

ID	CDI6
Description	Delete a Kloudbook contact
Setup	1. Remove all contacts from a user's contact list 2. Add the following users as connections to the user: • Aguirre Gillespie • Armstrong Raymond • Browning Duncan • Carole Hendricks • Davenport Copeland • Earnestine Chan • Janna Duran
Instructions	1. Locate the contact for Carole Hendricks 2. Swipe to delete the contact (standard iOS deletion, swipe from right to left over contacts table cell) 3. Tap Delete 4. Tap Delete again on the confirmation screen
Expected Results	1. When the user taps delete the first time, a confirmation alert should appear: "Are you sure? This will remove this person from your KloudContacts". The options are "Cancel" and "Delete".

2. After tapping delete, the contact should be removed.
3. The contacts that appear in the contacts list should know be:
- Aguirre Gillespie
- Armstrong Raymond
- Browning Duncan
- Davenport Copeland
- Earnestine Chan
- Janna Duran

ID	CDI7
Description	Change privacy setting for a contact
Setup	1. Make a connection with user John Smith 2. Give John Smith the privacy setting of "Business"
Instructions	1. Locate the contact for John Smith 2. Tap on "Change Privacy" 3. Choose "Home" 4. Tap save 5. Reopen the "Change Privacy"
Expected Results	1. When the user taps "change privacy", the option for "business" should be selected 2. After the user chooses home and taps save, no error should appear. 3. After the Change Privacy screen reopens, "Home" should be selected as the privacy option

Add New Contacts Tests

ID	ANC1
Description	Request a connection from someone who is in your iOS Address Book and already a Kloudbook member
Setup	- Delete the iOS Address Book - Add the following contacts to the iOS Address Book: - John Smith / john@gmail.com - Lisa Shoemaker / lisa@gmail.com - John Willis / Jwillis@gmail.com - Delete the Kloudbook user database - Add the following users to Kloudbook - John Smith / john@gmail.com - John Willis / Jwillis@gmail.com

Instructions	1. View the Add KloudContacts screen 2. Tap on "Contacts". If prompted, allow for Address Book access 3. Look for "John Smith" 4. Tap on the "add" button next to John Smith 5. In the resulting screen, select that you want to give "personal" access 6. Press "connect and request contact info"
Expected Results	1. A request should be sent to John Smith asking him for contact sharing access (no errors appear) 2. The "add" button is no longer visible

ID	ANC2
Description	Request a connection from someone who is in your iOS Address Book and is not a Kloudbook member

Setup	• Delete the iOS Address Book
	• Add the following contacts to the iOS Address Book:
	    ○ John Smith / john@gmail.com
	    ○ Lisa Shoemaker / lisa@gmail.com
	    ○ John Willis / Jwillis@gmail.com
	• Delete the Kloudbook user database (besides for kloudbookUser@gmail.com)

Instructions	1. View the Add KloudContacts screen 2. Tap on "Contacts". If prompted, allow for Address Book access 3. Look for "John Smith" 4. Tap on the "add" button next to John Smith 5. In the resulting screen, select that you want to give "business" access 6. Press "invite and share"
Expected Results	1. A request should be sent to John Smith asking him for contact sharing access (no errors appear) 2. An invitation icon appears next to John Smith's name 3. The "add" button is no longer visible

ID	ANC3
Description	Request a connection from someone who is in your Facebook friend and has a Kloudbook Account
Setup	• Have a Facebook account with 3 friends ○ Lisa Abby

	o Johnny Bobby
	o Louie Louie
Instructions	1. View the Add KloudContacts screen
	2. Tap on "Facebook". Tap OK to allow Facebook access
	3. Tap "add" next to Johnny Bobby
	4. In the resulting screen, select that you want to give "business" access
	5. Press "invite and share"
Expected Results	1. A request should be sent to John Smith asking him for contact sharing access (no errors appear)
	2. An invitation icon appears next to John Smith's name
	3. The "add" button is no longer visible

Settings Tests

ID	S1
Description	Logout of Kloudbook iOS app
Setup	Login to the Kloudbook iOS app
Instructions	1. View the settings screen
	2. Tap on "logout"
	3. Confirm logging out by tapping "logout" on the confirmation alert
Expected Results	1. After tapping logout, an alert window should appear, "Are you sure you want to logout?", "Cancel" and "Logout" are the options.
	2. After tapping "logout" to confirm, the user is logged out.
	3. The login/signup screen appears

Group Tests

ID	G1
Description	Show groups user is a member of
Setup	• Remove all groups from database.
	• Create the following groups:
	o Red Sox Nation
	o UMass Amherst
	o BirdWatchers United

	• Add Red Sox Nation and UMass Amherst as a group <kloudbookUser@gmail.com> is a member of.
Instructions	View the Groups screen
Expected Results	The groups screen should display the following groups: • Red Sox Nation • UMass Amherst

ID	G2
Description	Show the correct group information when selected

Setup	• Remove all groups from database.
	• Create the following groups:
	    o Red Sox Nation
	    o Red Sox nation should have the following information:
	        ▪ Name: Red Sox Nation
	        ▪ Description: A group for Red Sox fans
	        ▪ Picture: <Red Sox.jpg>
	        ▪ Members: "John Smith", "Lisa Shoemaker"
	• Add Red Sox Nation as a group <kloudbookUser@gmail.com> is a member of. The list of members know includes "Kloudbook User"

Instructions	1. View the Groups screen 2. Select Red Sox Nation

Expected Results	The detail view screen should appear for the Red Sox Nation. The following fields should read:
	• Name: Red Sox Nation
	• Description: A group for Red Sox fans
	• Picture: <Red Sox.jpg>
	• Members List: (In this order)
	    o John Smith
	    o Kloudbook User
	    o Lisa Shoemaker

ID	G3
Description	Leave membership of a group
Setup	• Remove all groups from database. • Create the following group: o Red Sox Nation • Add Red Sox Nation as a group <kloudbookUser@gmail.com>

	is a member of. The list of members know includes "Kloudbook User"
Instructions	1. View the groups list page 2. Swipe the group "Red Sox Nation" 3. Tap Leave
Expected Results	1. When the user taps Leave the first time, a confirmation alert should appear: "Are you sure? This will remove you from this group". The options are "Cancel" and "Leave". 2. After tapping Leave, the group is removed. 3. The groups list should now be empty

User/Contact Objects

User

+ int userID
+ BOOL isActive
+ String pictureURL
+ int age
+ String fname
+ String lname
+ String gender
+ String company
+ Dictionary addresses
+ Dictionary phoneNumbers
+ Dictionary emails
+ Dictionary socialNetworks
+ String hometown
+ String currentCity
+ String highSchool
+ String college
+ String about
+ registered

Contact

+ int userID
+ BOOL isActive
+ BOOL isFriend
+ String pictureURL
+ int age
+ String fname
+ String lname
+ String gender
+ String company
+ Dictionary addresses
+ Dictionary phoneNumbers
+ Dictionary emails
+ Dictionary socialNetworks
+ String hometown
+ String currentCity
+ String highSchool
+ String college
+ String about
+ registered

Facebook/LinkedIn/Gmail API

SearchAndAddFriends

+ Array contactsToInvite

+ authorize
+ getContacts

User

Sign-Up

- User newUser

+ edit:(field)

AddFriend

+ int userID

InviteFriend

+ int userID

KBAPIClient

- String AppSecret

+ requestAuthToken
+ getBearerToken

KB Database

Login

+ Dictionary userSignupAttributes

+ signup
+ login

User

Contacts

Settings

+ logout
+ deactivate
+ edit:(field)

Profile

- User me

+ edit:(field)

DataMappingProvider

+ contactMapping
+ groupMapping
+ userMapping

Contact Profile

- Contact current

ContactsList

- Array contacts

+ getContacts
+ deleteContact

GroupsList

- Array contacts

+ getGroups
+ deleteGroup

GroupContactsList

- Array contacts

+ getContacts
+ deleteContact