

## EXHIBIT 102

UNREDACTED VERSION OF DOCUMENT SOUGHT TO BE LODGED UNDER SEAL

---

**From:** Eddie O'Neil </O=THEFACEBOOK/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=EDDIE ONEIL>  
**Sent:** Monday, December 22, 2014 10:10 AM  
**To:** Michael Huang; Konstantinos Papamiltiadis; Simon Cross  
**Cc:** Eugene Zarakhovsky; Jason Clark; Harshdeep Singh  
**Subject:** Re: Login + Dating Apps (Hinge and Firefly)

Harsh, do you have a timing update on this?

Thanks,  
Eddie

---

**From:** Michael Huang <[michaelh@fb.com](mailto:michaelh@fb.com)>  
**Date:** Monday, December 22, 2014 at 10:07 AM  
**To:** Konstantinos Papamiltiadis <[kpapamiltiadis@fb.com](mailto:kpapamiltiadis@fb.com)>, Simon Cross <[si@fb.com](mailto:si@fb.com)>  
**Cc:** Eddie O'Neil <[ekoneil@fb.com](mailto:ekoneil@fb.com)>, Eugene Zarakhovsky <[eugenez@fb.com](mailto:eugenez@fb.com)>, Jason Clark <[jacl@fb.com](mailto:jacl@fb.com)>, Harshdeep Singh <[harshdeeps@fb.com](mailto:harshdeeps@fb.com)>  
**Subject:** Re: Login + Dating Apps (Hinge and Firefly)

Hi all,

Is there any possibility of moving forward with beta testing here? Hinge and Kickoff (formerly Firefly) are interested in integrating the new mutual friends APIs (and migrating to API v2) if possible. Thank you!

Best,  
Michael

michael huang | facebook partnerships | [michaelh@fb.com](mailto:michaelh@fb.com)

---

**From:** Konstantinos Papamiltiadis  
**Date:** Tuesday, November 11, 2014 at 7:11 AM  
**To:** Simon Cross  
**Cc:** Eddie O'Neil, Eugene Zarakhovsky, Michael Huang, Jason Clark, Harshdeep Singh  
**Subject:** Re: Login + Dating Apps (Hinge and Firefly)

Sounds good! Thanks for the update, Simon.

kp

---

**From:** Simon Cross <[si@fb.com](mailto:si@fb.com)>  
**Date:** Tuesday, November 11, 2014 at 3:02 PM  
**To:** Konstantinos Papamiltiadis <[kpapamiltiadis@fb.com](mailto:kpapamiltiadis@fb.com)>  
**Cc:** Eddie O'Neil <[ekoneil@fb.com](mailto:ekoneil@fb.com)>, Eugene Zarakhovsky <[eugenez@fb.com](mailto:eugenez@fb.com)>, Michael Huang <[michaelh@fb.com](mailto:michaelh@fb.com)>, Jason Clark <[jacl@fb.com](mailto:jacl@fb.com)>, Harshdeep Singh <[harshdeeps@fb.com](mailto:harshdeeps@fb.com)>  
**Subject:** Re: Login + Dating Apps (Hinge and Firefly)

Hey KP:

We're currently awaiting privacy XFN approval. Im working worth Josh and Shirine to drive this. I suggest we don't share deets until then.

In terms of timeline, the all mutual friends api is easy to build and we can likely have this built within a couple of weeks of approval.

The second indexing api is more complex and will take longer - unknown at present.

I hope we get privacy XFN approval next week at which point you can share deets,

How's that?

Si

Sent from my iPhone

On 11 Nov 2014, at 05:11, Konstantinos Papamiltiadis <[kpapamiltiadis@fb.com](mailto:kpapamiltiadis@fb.com)> wrote:

Hello gents,

Just following up on this thread to confirm if we have made any progress against those two new APIs.

I have been in discussions with both Tinder and Badoo the past few weeks walking them over the objectives of those APIs and they are both happy with the proposed solution, albeit Badoo have not yet given up on their efforts to petition for the full friends list as this gives them the opportunity to connect users with 2 or 3 degrees of separation.

Anyway, the next steps for me here would be to share a timeline and docs that explain in more details those APIs. Could you please let me know when we could socialize those?

Thanks a lot,  
kp

---

**From:** Simon Cross <[si@fb.com](mailto:si@fb.com)>

**Date:** Monday, October 27, 2014 at 4:28 PM

**To:** Eddie O'Neil <[ekoneil@fb.com](mailto:ekoneil@fb.com)>, Eugene Zarakhovsky <[eugenez@fb.com](mailto:eugenez@fb.com)>, Konstantinos Papamiltiadis <[kpapamiltiadis@fb.com](mailto:kpapamiltiadis@fb.com)>, Michael Huang <[michaelh@fb.com](mailto:michaelh@fb.com)>

**Cc:** Jason Clark <[jacl@fb.com](mailto:jacl@fb.com)>, Harshdeep Singh <[harshdeeps@fb.com](mailto:harshdeeps@fb.com)>

**Subject:** Re: Login + Dating Apps (Hinge and Firefly)

Thanks for the feedback:

1/ re testing timeframe, we'd like to build the all\_mutual\_friends API pretty fast (weeks) and get them testing right away. The indexing API is a non-trivial eng task so is further away. We don't want to block on this.

2/ This would only be available when specifying v2.x in their URLs, but they can do that just for these calls and keep all their other calls on v1.0.

3/ the deep linking review criteria is a suggestion at present – for discussion. Good feedback. Agree with Eddie. I'll soften the language in the doc – also also don't think its reasonable to surface all mutual friends. One would do – as that's the trip advisor UI.

S

---

**From:** Eddie O'Neil <[ekoneil@fb.com](mailto:ekoneil@fb.com)>  
**Date:** Monday, October 27, 2014 at 8:27 AM  
**To:** Eugene Zarakhovsky <[eugenez@fb.com](mailto:eugenez@fb.com)>, Konstantinos Papamiltiadis <[kpapamiltiadis@fb.com](mailto:kpapamiltiadis@fb.com)>, Michael Huang <[michaelh@fb.com](mailto:michaelh@fb.com)>, Simon Cross <[si@fb.com](mailto:si@fb.com)>  
**Cc:** Jason Clark <[jacl@fb.com](mailto:jacl@fb.com)>, Harshdeep Singh <[harshdeeps@fb.com](mailto:harshdeeps@fb.com)>  
**Subject:** Re: Login + Dating Apps (Hinge and Firefly)

Michael: thanks for following up; happy that this will work for them.

RE linking to the FB app: linking to the FB app from mutual friends isn't part of the review criteria ATM – just two features they can combine. That said, it's a good idea. :) If we did ask them to link, I would be fine with just linking from the Full Profile.

Eddie

---

**From:** Eugene Zarakhovsky <[eugenez@fb.com](mailto:eugenez@fb.com)>  
**Date:** Monday, October 27, 2014 at 8:15 AM  
**To:** Konstantinos Papamiltiadis <[kpapamiltiadis@fb.com](mailto:kpapamiltiadis@fb.com)>, Michael Huang <[michaelh@fb.com](mailto:michaelh@fb.com)>, Simon Cross <[si@fb.com](mailto:si@fb.com)>, Eddie O'Neil <[ekoneil@fb.com](mailto:ekoneil@fb.com)>  
**Cc:** Jason Clark <[jacl@fb.com](mailto:jacl@fb.com)>, Harshdeep Singh <[harshdeeps@fb.com](mailto:harshdeeps@fb.com)>  
**Subject:** Re: Login + Dating Apps (Hinge and Firefly)

They would be able to use both 1.0 and 2.0 APIs concurrently - so would be no need to migrate to use the new APIs.

---

**From:** Konstantinos Papamiltiadis <[kpapamiltiadis@fb.com](mailto:kpapamiltiadis@fb.com)>  
**Date:** Monday, October 27, 2014 at 8:11 AM  
**To:** Michael Huang <[michaelh@fb.com](mailto:michaelh@fb.com)>, Simon Cross <[si@fb.com](mailto:si@fb.com)>, Eddie O'Neil <[ekoneil@fb.com](mailto:ekoneil@fb.com)>  
**Cc:** Jason Clark <[jacl@fb.com](mailto:jacl@fb.com)>, Harshdeep Singh <[harshdeeps@fb.com](mailto:harshdeeps@fb.com)>, Eugene Zarakhovsky <[eugenez@fb.com](mailto:eugenez@fb.com)>  
**Subject:** Re: Login + Dating Apps (Hinge and Firefly)

+1 – this looks great, Simon.

kp

---

**From:** Michael Huang <[michaelh@fb.com](mailto:michaelh@fb.com)>  
**Date:** Monday, October 27, 2014 at 3:46 PM  
**To:** Simon Cross <[si@fb.com](mailto:si@fb.com)>, Konstantinos Papamiltiadis <[kpapamiltiadis@fb.com](mailto:kpapamiltiadis@fb.com)>, Eddie O'Neil <[ekoneil@fb.com](mailto:ekoneil@fb.com)>  
**Cc:** Jason Clark <[jacl@fb.com](mailto:jacl@fb.com)>, Harshdeep Singh <[harshdeeps@fb.com](mailto:harshdeeps@fb.com)>, Eugene Zarakhovsky <[eugenez@fb.com](mailto:eugenez@fb.com)>  
**Subject:** Re: Login + Dating Apps (Hinge and Firefly)

This looks great!

I had a call with Hinge on Friday, and they believe this will fit with their use case and are therefore pretty happy about it. They did have a few follow up questions:

- What's the timeframe for beta testing the APIs? They'd love to lock down an upgrade to API v2 by end of year, so the sooner the better from their end.

- Their CEO was wondering if there was any way to access these APIs in API v1 so that they could test before API v2 goes live and ensure a smoother transition – is this possible?
- Around the Review criteria requiring that the app surface mutual friends in the UI and deeplink to the Facebook profile:
  - They have two different use cases:
    - Match Cards: Shows a preview of the dating match (lists one mutual friend and no other information)
    - Full Profile: Shows the full profile of a dating match
  - Would they have to surface all mutual friends and deeplink in both instances, or would they meet the review criteria if they only did so from the full profile but not from the match card? They're concerned about doing so with the match cards, since they (a) don't want people to inadvertently click on the mutual friend and link to their profile when they meant to click through to the full profile and (b) they want this to be a "teaser" and therefore only list a handful of the mutual friends.

Thanks!

Best,  
Michael

michael huang | facebook partnerships | [michaelh@fb.com](mailto:michaelh@fb.com)

---

**From:** Simon Cross <[si@fb.com](mailto:si@fb.com)>

**Date:** Thursday, October 23, 2014 at 6:38 PM

**To:** Konstantinos Papamiltiadis <[kpapamiltiadis@fb.com](mailto:kpapamiltiadis@fb.com)>, Eddie O'Neil <[ekoneil@fb.com](mailto:ekoneil@fb.com)>

**Cc:** Michael Huang <[michaelh@fb.com](mailto:michaelh@fb.com)>, Jason Clark <[jacl@fb.com](mailto:jacl@fb.com)>, Harshdeep Singh <[harshdeeps@fb.com](mailto:harshdeeps@fb.com)>, Eugene Zarakhovsky <[eugenez@fb.com](mailto:eugenez@fb.com)>

**Subject:** Re: Login + Dating Apps (Hinge and Firefly)

Hey guys,

I've written up the first draft of a proposal based on what we've previously discussed and what Eddie presented to Mike: <https://quip.com/j3poAQBUCI4x>

But this is just a straw man. Harsh, Eddie, Eugene: need your input to work this up to a state we can share more broadly – especially around the specifics of the APIs.

Thanks,

Si

---

**From:** Simon Cross <[si@fb.com](mailto:si@fb.com)>

**Date:** Thursday, October 23, 2014 at 4:14 PM

**To:** Konstantinos Papamiltiadis <[kpapamiltiadis@fb.com](mailto:kpapamiltiadis@fb.com)>, Eddie O'Neil <[ekoneil@fb.com](mailto:ekoneil@fb.com)>

**Cc:** Michael Huang <[michaelh@fb.com](mailto:michaelh@fb.com)>, Jason Clark <[jacl@fb.com](mailto:jacl@fb.com)>, Harshdeep Singh <[harshdeeps@fb.com](mailto:harshdeeps@fb.com)>, Eugene Zarakhovsky <[eugenez@fb.com](mailto:eugenez@fb.com)>

**Subject:** Re: Login + Dating Apps (Hinge and Firefly)

We plan to deliver on this ASAP.

I'm in the process of spec'ing out these APIs right now – then we can take it to privacy XFN and get building.

We want to unblock these guys asap.

S

---

**From:** Konstantinos Papamiltiadis <[kpapamiltiadis@fb.com](mailto:kpapamiltiadis@fb.com)>  
**Date:** Thursday, October 23, 2014 at 3:06 PM  
**To:** Eddie O'Neil <[ekoneil@fb.com](mailto:ekoneil@fb.com)>  
**Cc:** Michael Huang <[michaelh@fb.com](mailto:michaelh@fb.com)>, Jason Clark <[jacl@fb.com](mailto:jacl@fb.com)>, Simon Cross <[si@fb.com](mailto:si@fb.com)>, Harshdeep Singh <[harshdeeps@fb.com](mailto:harshdeeps@fb.com)>, Eugene Zarakhovsky <[eugenez@fb.com](mailto:eugenez@fb.com)>  
**Subject:** Re: Login + Dating Apps (Hinge and Firefly)

Tinder, Badoo, Airbnb, Tripadvisor and Vinted one of the e-commerce apps we work closely with and are great beta testers all have a dependency on common friends and are reserved to move to V2 until they have a plan B on how to mitigate the loss of common friends. The below solution works great for them and I would encourage us to deliver this on a timely way to ensure those folks are on V2 this side of the holiday season, mainly for optics.

Thoughts?

kp

---

**From:** Eddie O'Neil <[ekoneil@fb.com](mailto:ekoneil@fb.com)>  
**Date:** Thursday, October 23, 2014 at 11:02 PM  
**To:** Konstantinos Papamiltiadis <[kpapamiltiadis@fb.com](mailto:kpapamiltiadis@fb.com)>  
**Cc:** Michael Huang <[michaelh@fb.com](mailto:michaelh@fb.com)>, Jason Clark <[jacl@fb.com](mailto:jacl@fb.com)>, Simon Cross <[si@fb.com](mailto:si@fb.com)>, Harshdeep Singh <[harshdeeps@fb.com](mailto:harshdeeps@fb.com)>, Eugene Zarakhovsky <[eugenez@fb.com](mailto:eugenez@fb.com)>  
**Subject:** Re: Login + Dating Apps (Hinge and Firefly)

Yes – we can build a way for partners to open FB.app from their apps. We planned to launch this in December, though F8 work might defer that a bit.

Is it important for any of these scenarios – e.g. does Hinge do this today? Last time I checked, Hinge was NYC only, so I haven't used it myself.

Eddie

---

**From:** Konstantinos Papamiltiadis <[kpapamiltiadis@fb.com](mailto:kpapamiltiadis@fb.com)>  
**Date:** Thursday, October 23, 2014 at 2:48 PM  
**To:** Eddie O'Neil <[ekoneil@fb.com](mailto:ekoneil@fb.com)>  
**Cc:** Michael Huang <[michaelh@fb.com](mailto:michaelh@fb.com)>, Jason Clark <[jacl@fb.com](mailto:jacl@fb.com)>, Simon Cross <[si@fb.com](mailto:si@fb.com)>, Harshdeep Singh <[harshdeeps@fb.com](mailto:harshdeeps@fb.com)>, Eugene Zarakhovsky <[eugenez@fb.com](mailto:eugenez@fb.com)>  
**Subject:** Re: Login + Dating Apps (Hinge and Firefly)

Eddie, can we engineer a way for User B's profile day to deeplink into the user's timeline within the facebook app?

The rest is absolutely fine for all other use cases (outside dating) i have shared with you earlier.

My only other question is; how soon can we make this available to partners?

Thanks a lot for this - it will certainly unblock a few key migrations!

Best,  
kp

On 23 Oct 2014, at 22:32, Eddie O'Neil <[ekoneil@fb.com](mailto:ekoneil@fb.com)> wrote:

Hi Michael – we plan to make some additional info available through the Social Context API to support two key dating scenarios.

Given this graph:

User A friend with User B  
User B friend with User C  
A, C use the app  
B does not use the app

The new APIs would support:

- 1/ showing User B as a mutual friend when User A looks at User C's profile
- 2/ letting the app use User B in algorithmic matchmaking to match User A and User C

These APIs would return info including first name, last name, profile pic, and an opaque token.

They may not be happy with this because they don't get the raw data, but suggest that we explain this to them and get feedback.

Thoughts? Sound good?

Eddie

---

**From:** Michael Huang <[michaelh@fb.com](mailto:michaelh@fb.com)>  
**Date:** Thursday, October 23, 2014 at 12:40 PM  
**To:** Eddie O'Neil <[ekoneil@fb.com](mailto:ekoneil@fb.com)>, Jason Clark <[jacl@fb.com](mailto:jacl@fb.com)>, Simon Cross <[si@fb.com](mailto:si@fb.com)>, Harshdeep Singh <[harshdeeps@fb.com](mailto:harshdeeps@fb.com)>  
**Cc:** Konstantinos Papamiltiadis <[kpapamiltiadis@fb.com](mailto:kpapamiltiadis@fb.com)>, Eugene Zarakhovsky <[eugenez@fb.com](mailto:eugenez@fb.com)>  
**Subject:** Re: Login + Dating Apps (Hinge and Firefly)

Hi Eddie,

Was there any news yet on this front? I have a call with Hinge tomorrow, so just want to see if there's anything to relay from my end. Thanks!

Best,  
Michael

michael huang | facebook partnerships | [michaelh@fb.com](mailto:michaelh@fb.com)

---

**From:** Eddie O'Neil <[ekoneil@fb.com](mailto:ekoneil@fb.com)>  
**Date:** Friday, October 17, 2014 at 4:08 PM  
**To:** Michael Huang <[michaelh@fb.com](mailto:michaelh@fb.com)>, Jason Clark <[jacl@fb.com](mailto:jacl@fb.com)>, Simon Cross <[si@fb.com](mailto:si@fb.com)>, Harshdeep Singh <[harshdeeps@fb.com](mailto:harshdeeps@fb.com)>  
**Cc:** Konstantinos Papamiltiadis <[kpapamiltiadis@fb.com](mailto:kpapamiltiadis@fb.com)>, Eugene Zarakhovsky

<eugenez@fb.com>

**Subject:** Re: Login + Dating Apps (Hinge and Firefly)

+Harsh / Simon for API implications

+Eugene as FYI

Hi Michael – thanks for the detailed note; this is good info We're discussing this with Mike mid-next week, so we won't have an update until at least Thursday.

For context: we have a tentative plan to propose to Vernal about how to support these scenarios but plan to emit this data throughout the Social Context API rather than giving them back the raw friend list. I expect we will support some of their use cases, but they may not be happy with the amount of data they get back from us.

Will let you know what happens Wednesday.

Eddie

---

**From:** Michael Huang <michaelh@fb.com>

**Date:** Friday, October 17, 2014 at 11:59 AM

**To:** Eddie O'Neil <ekoneil@fb.com>, Jason Clark <jacl@fb.com>

**Cc:** Konstantinos Papamiltiadis <kpapamiltiadis@fb.com>

**Subject:** Login + Dating Apps (Hinge and Firefly)

Hi Eddie and Jason,

As noted previously, Hinge and Firefly leverage friends of friends to make dating matches (and in the case of Hinge, also friends-of-friends-of-friends), and are concerned about losing access to mutual friend data under API 2.0. We requested that both Hinge and Firefly reach out to us with proposed solutions for their particular use cases.

I've attached both statements from Hinge and Firefly and have pasted a summary below. Hinge in particular is looking to move quickly for a solution, so would love to circle back on this early next week if possible. Please let me know if you have any questions. Thanks!

Best,  
Michael

### **Current use cases**

#### **Hinge**

- **Permissions:** Basic + friend list
- **Data use:**
  - Uses mutual friends to display potential dating matches to users - does so for both friends of friends (2nd degree) and friends of friends of friends (3rd degree)
  - For 2nd degree: when there is a mutual match, will display mutual friends to each (including non-app friends)
  - For 3rd degree: when there is a mutual match, will display mutual friend (but doesn't surface 3rd degree connections)



## Firefly

- **Permissions:** Basic + friend list
- **Data use:**
  - Introduces users to their friends' single friends a few people at a time by leveraging friends-of-friends data

## Proposed solutions

### Hinge

#### 1. Whitelist for full friend list

- Indefinite whitelist of API 1.0 or with a long term extension OR
- API 2.0 with global IDs with access to the user's full friend list and basic info for non-app friends OR
- API 2.0 with app-scoped IDs, but allow querying the user's full friend list and basic info for non-app friends

#### 2. 2nd degree connections + mutual friends (two parts):

- Allow Hinge to query for 2nd degree connections (friends-of-friends) who are Hinge users. In addition to the friend list query which returns a list of Hinge users who are friends with the current user, also provide an ability to query for the list of friends-of-friends who are current Hinge users. This option would only return a list of Hinge users, but would still allow them to make 2nd and 3rd degree connections between users. AND
- Grant access to all mutual friends, either by:
  - Allowing the call to work the way it does now (returning UIDs) OR
  - Simply returning the name of the user (with photo)

### Firefly

- Allow users to share their full friend list