

PRD 3

Title

Empowering Upstart Small Businesses

Overview

Rek positions itself as an alternative to current review platforms by way of its ability to connect users and enable them to share reviews and merchant insights among their connections. On the other side of the equation, Rek differentiates itself from other review platforms for the manifold new advantages it provides to business owners.

Objective

We aim to give business owners an efficient means of onboarding their business to the platform while partnering with them to grow the platform's user base. We aim to give businesses the tools to better identify and market to new customers. Lastly, we aim to give businesses numerous built-in protections against fake reviews that would adversely impact their reputation and performance.

Persona(s)

Primary Persona - Austin Tran (business owner)

Demographics:

- 34 years old
- In a relationship
- Lives in Seattle
- Bachelor's Degree
- Income: \$65,000

Behaviors:

Austin is a proud owner of Cà Phê, a Vietnamese cafe. He has been in the food industry for 15 years, and is passionate about delivering best services and quality products to his customers. The cafe is new but has been doing well and is recognized on social media.

Austin is also a technophile who is always on the lookout for new innovations. He is currently utilizing SEO and the cafe Instagram account to attract customers

Other Players

Tim (the regular)

A computer science student at the nearby University of Washington. Tim frequents Cà Phê at least once a week.

The Fake Review Army (“FRA” for short)

Hired guns that can be contracted to swamp a business with fake, negative reviews on a given review platform.

Seattle Fake User (“SFU” for short)

The label applied to each member of the FRA’s Seattle chapter. They are dispatched to swamp Austin’s business as Rek requires a GPS-enabled check-in before permitting a user to write a review.

Pho Phood (incumbent competitor)

An already-established, competing Vietnamese restaurant in the area. The owner has a win-at-all-costs mentality that can lead him to employ unscrupulous methods.

NOTE: There are some elements (dashboards, workflows and classification tools) of the scenarios which are marked with bold text. For the sake of brevity of these scenario writeups, these elements are only alluded to within the scenario. However, more in-depth detail of these elements are provided in either the “prototype” or “appendix” sections

user scenario 1 - onboarding the business and customers

Austin is within his first few weeks of running Cà Phê. He wants to build a reputation so that people know he serves some of the best Vietnamese food in the area. To that end, he sets up and verifies a business account with Yelp. Yelp provides him with a sticker that says “thanks for coming, help us out by leaving us a review!”. He puts it on the entryway of his business but doesn’t see a substantive growth in the total number of reviews.

In this phase, Austin is a bit nervous as his business is nascent and extra sensitive to negative reviews. Related to that, Austin has read enough about Yelp’s “fake reviews” to give him added anxiety. He wonders if his established competitor in the area, Pho Phood, might weaponize a fake review army against his business to crush Cà Phê before it can get traction.

Additionally, Austin struggles with Yelp as a marketing tool. Yelp Ads have enabled him to reach out to a broader base of customers. However, Austin pays only if they click the ad and, from that point, has no sense of who clicked that ad – if they even came to the restaurant; came back; were visitors or locals.

But a new review app, Rek, reaches out to Austin once his new business becomes a matter of public record. Like Cà Phê, Rek is an up-and-coming business that is looking to grow. As representatives of Rek further explain the platform to him, Austin warms to the novel aspects of Rek: built-in protections against fake reviews, the potential of a social network element within a review system and, for his own marketing purposes, the idea of finding large and local network segments that he can market to.

They agree to enter into a strategic partnership. Austin sets up a business account with a publicly visible profile that includes all of the restaurant’s relevant information. Rek then ships him a batch of paper cards with QR codes that he can place at each of his tables. The cards contain a message for patrons stating that, in exchange for a \$5 coupon to be used on their next visit, they must scan the QR code and go through the prompts to download the app, create a Rek account, leave a review and invite 3 friends to join.

A customer does this and comes back a few days later. The app prompts the customer to check into Cà Phê at which point they are prompted with the coupon. The customer presents the coupon to the server and the server manually makes a record of it and applies it to the bill. Rek reimburses Austin for each coupon. Through this, Austin gets repeat customers and Rek manages to grow their platform

NOTE: due to complexity and limited resources, we will start with a manual implementation of coupon management

user scenario 2 - marketing to a target network

Austin wants to increase sales by building a loyal customer base from a nearby and substantial network segment. He suspects the nearby University of Washington (UW) campus is that target network segment as it is within walking distance.

Austin's current options for promoting Cà Phê include on-campus flyers, ads in the student newspaper or a network effect via word of mouth and repeat business. These options are time-consuming but also costly in some cases. Moreover, there is no guarantee they provide needed visibility or a compelling incentive for students to come to the restaurant.

But now, with Rek's Network Nab (NN) feature, Austin can access a **patron network dashboard** where he can filter his verified Rek patrons by network segment (i.e. school or employer). He sees University of Washington as a recurring network segment among his patrons. He sees the summary stats on the secondary connections of his patrons within this network segment and verifies that there is in fact a large addressable market from UW that exists within Rek.

Austin uses NN to craft an advertising/promotional campaign consisting of: a discounted dinner and drink special when you check-in with Rek, an extra 5% off if you share this with 20 people in your Rek network and an extra, anytime coupon of \$5 for each friend who checks in based on your sharing of this promo.

Tim is a Computer Science student at UW and a big fan of Cà Phê. He is looking for a way to get his friends together after their product management class wraps late Thursday night. He receives a notification for this promo. He shares this promo with his 5 friends in the class that states "Hey friends, let's head here after class for dinner". He then shares this promo with another 15 people in his network along with a message that states "I go here all the time, this is a great deal so you should check this place out".

Tim and his friends go to dinner that Thursday and they all check-in – confirming Tim as the 'referrer' in that process. At the end of the meal he presents his coupons to the server who manually makes a record of it and applies those coupons towards his bill.

At different points later on, a subset of those other 15 invites check-in and also confirm Tim as the 'referrer'

user scenario 3 - combat fake reviews

Pho Phood has contracted a fake review army (FRA) to sink Austin's business reputation. With any other pre-existing review platform, Austin must go through a bureaucratic and lumbering process to flag these reviews as suspicious and have a human intermediary take the time to confirm Austin's suspicions and then remove these fake reviews from Austin's business profile. In the lead time of that review process, however, those reviews remain visible, materially affect the overall score of Austin's business and, in turn, materially impact Austin's sales.

But now, with **Rek's Suspicious Review Engine (SRE)**, there exists a platform and workflow that both makes it harder and more costly for FAAs to affect Austin's standing on the platform while enabling Austin to combat and isolate FAAs in a much more efficient manner.

The FAA discovers they can no longer sink Austin's business remotely because SRE requires that a user check-in at Austin's restaurant to leave a review. So the FRA marshals their members in the Seattle area for this task. Each individual in this group will be referred to as a Seattle Fake User (SFU). Each SFU must create an account on Rek by downloading the app and then importing an underlying social media account (heretofore labeled as "underlying account").

The SFU must then travel to the location of Austin's restaurant, "check-in" with the app, select Austin's business and begin to write their fake review. The review form requires a score (out of 5 stars) and then optional add-ons include: a written review describing the experience; and uploaded photos of the experience from within the restaurant. The SFU submits the review.

On the other side of this, Austin has a custom alert titled "high priority - respond immediately" which notifies Austin (via in-app message and also email) of reviews less than or equal to 2.5 stars. On a certain day, Austin's inbox is flooded with alerts of this type.

From one of these messages, he sees a review that consists of a 1-star score and an additional written message that says "would not come here again". The review is suspicious to Austin, not only because it comes among a deluge of other suspicious reviews, but also because it's lazy and offers no content specific to Austin's restaurant.

From his **user network stats dashboard**, Austin spots some other suspicious characteristics of the reviewer (e.g. school, employer, number of connections and date the account was created). At this point, Austin is pretty certain this review is fake but also suspects that the majority of these recent, negative reviews are also fake.

He would rather flag these reviews as a batch so, from his **review stats aggregator dashboard**, he generates a bar chart for all reviews for his business that are less than 2.5 stars and grouped by submission within the past 2 days, 7 days, 14 days,...). Sure enough, he sees that 95% of all these reviews were submitted within the past week with 90% of those being

submitted just within the past 2 days. Austin, with a single click, can then put all reviews on this dashboard through the SRE's **suspicious review workflow**. This workflow is built upon the **SRE's classification tool (SRE-CT)**. This tool is built on a machine learning model that analyzes the reviewer's account and the review itself and outputs the degree to which it suspects the review is inauthentic. The output of this tool pushes the workflow along by corroborating or refuting Austin's claim.

There are 203 total reviews that Austin flags. 190 of those are classified as some degree of suspicion by SRE-CT. 150 of these 190 are considered to be almost certainly fake by SRE-CT and automatically removed from the platform. The remaining 40 are put through the **user review affirmation workflow**. The owners of these reviews are notified and have a chance to upload evidence that affirms the veracity of their review. 10 of these 40 reviews are affirmed by their owner. Austin is notified when a review is "affirmed" by its owner and he has a chance to respond by uploading his own evidence.

user stories (aggregated across all scenarios)

For the sake of clarity, the table below shows a mapping from every persona from each scenario to a generic, encompassing label that will be used in the following user stories:

Label	Persona(s)
BizOwner	Austin
User	Scenario 1 - Newly onboarded customer Scenario 2 - Tim Scenario 3 - SFU

Additionally, we use the label “Rek” to encompass all proprietary components that comprise the app and its actions. Lastly, the “SRC” column in the table below indicates the scenario(s) from which this user story came and the “ID” column is just a numeric index for the sake of enumerating epics.

ID	AS	I WANT	SO THAT	SRC
01	Rek	to scan public records to identify newly-incorporated businesses	I can find those that fit our target demographic and initiate outreach for onboarding that business as a strategic partner	1
02	BizOwner	a seamless method for verifying my business and setting up a business account on Rek	I can access the Rek platform to empower my upstart business	1
03	Rek	to produce QR codes, specific to Austin's business, that, when scanned, initiate the incentivized user onboarding flow	it's easier for Austin to help me onboard customers to the platform. Further, Austin is incentivized to participate with the prospect of repeat customers	1
04	User	download the app from some app marketplace (provided I do not download it via an in-restaurant QR code scan)	I can begin the process of creating an account	3
05		to import a pre-existing social media account into Rek	the Rek app can create my account and I can then access the Rek functionality which is premised on social network connections	1, 3
06		my account to be identifiable to my network but not identifiable by the businesses that I review	with friends, I can connect and share info with businesses, I can protect my privacy and not fear backlash from leaving a negative review	1, 3
07		receive a notification to check-in when my phone GPS detects that I am in a business on the Rek platform	I can verify to Rek that I am at the business and be permitted to write a review	1
08		to be able to invite my friends (from the underlying social media account) to join the Rek platform	I can get them involved AND/OR attain certain promotions	1,2
09		build a review that, at a minimum, allows me to rate the business out of 5 stars	I can convey the bare minimum about how much I did/did not enjoy the experience	1
10		build a review with the optional add ons of long-	I can convey my experience at this business in greater detail	1

		form written text and photos that I can directly upload to the app from my phone		
11	BizOwner	to receive notifications (via email AND/OR through Rek's messaging system) when my business is reviewed	I can be made aware of that review and subsequently read and react to that review	1
12		to respond (privately or publicly) to the review	I can gain more context on the reviewer's experience and setup a chance to repair that impression with the reviewer	1
13	User	I want to be prompted with a check-in notification at a business (using GPS) and be prompted with my usable coupons	I can effortlessly capitalize on the incentive I was promised by Rek	1, 2
14	BizOwner	a dashboard for all applied coupons	I can know what Rek owes me and reimbursements and see the number of customers they have been able to bring in	1, 2
15		a patrons dashboard for viewing summary stats of my patrons' network segments	I can examine what networks my patrons belong to and then examine the size of those networks	1, 2
16		to construct adverts and custom discounts/promotions and then bulk share those to patrons within a specific network segment	I can drive awareness for my established patron base	2
17		the patrons I share that promo with to be able to share it among their own network	I can enlist my patrons to help expand my own customer base to a broader market	2
18		the ability to share promos with a select list of people within my network	I can capture deeper tiers of the promotion	2
19		the ability to do the above item along with a specialized message	I can convey the purpose of sharing this promo and demonstrate this is not spam	2
20		my friends to have the ability to check into the business and be prompted with a modal to confirm my referral brought them there	the business knows that person is there at my recommendation and I achieve progress towards deeper tiers of the promotion	2
21	BizOwner	the ability to input used coupons into my system	I can track coupon usage and underlying user stats	2
22		to configure custom notifications for when the review matches some pre-specified criteria	So that I can isolate/filter high priority reviews that require an immediate response	1, 3
23		to click on these notifications and be taken to a business-account-specific view of this review	I can: - See that review as other users see it But also: - Navigate to additional (but non-identifying) information of the reviewer and their network to gain more context - Directly respond to that reviewer with a message of my own (either privately or publicly)	3
24		a user network stats dashboard for a particular reviewer	I can gain additional context on the network segment from which this user came and possibly determine if anything appears suspicious	2, 3
25		a review stats aggregator dashboard	I can, in the context of this scenario, apply search/grouping parameters to identify a pattern of suspicious reviews	3
26	Rek	a high-precision/accuracy classification model that predicts the degree to which a given review	I can determine which reviews, with respect to the suspicious review workflow :	3

		appears suspicious	- DO/DO NOT warrant continuation through the workflow - can automatically be disqualified as “fake”	
27	BizOwner	have a dashboard of all suspicious review workflows (that I have initiated) which details the reviews that are/not marked for continuation	Know which of these reviews will: - persist and remain visible - will continue through the workflow - will be automatically discarded and no longer affect my business' reputation	3
28	User	to receive a notification from Rek when my review is flagged as suspicious	I can have a chance to respond and begin the user review affirmation workflow	3
29		to have a general dashboard for my reviews	I can filter for those that are “suspended” and start the user review affirmation workflow	3
30		to upload the information I deem relevant in affirming my review. This can include: - written text - uploading files AND/OR photos	I can put forth evidence that pushes Rek's SRE towards determining that my review is authentic	3
31	BizOwner	receive notifications of affirmation responses (or non-responses)	I can decide if I want to agree with the reviewer OR put forth my own evidence to counter the reviewers affirmation	3
32	Rek	a human arbitrator	I can make a final decision on whether or not a review is suspicious	3

epics

listed in order of priority

Epic	Description	User Story ID(s)	Rationale for this priority
user review system	<ul style="list-style-type: none"> - X out of 5 stars - written review - photo uploads - Business owner notification and response - Keeping user's identity anonymous to business 	06 07 09 10 11 12	<p>First off, this is the core functionality upon which all other epics are built around.</p> <p>Additionally, the functionality is somewhat standard and should require relatively little engineering lift</p>
suspicious review adjudication	<ul style="list-style-type: none"> - flag and track suspicious reviews - SR-CT - user review affirmation workflow 	27 28 29 30 31 32	<p>Though dependent on the “user review system”, this epic spans the functionality which differentiates Rek to business owners by allowing them to combat fake reviews in a vastly more efficient manner.</p> <p>If our plan is to initially onboard business owners, then we need to show them the goods that make it worth their while</p>
business empowerment and marketing insights	<ul style="list-style-type: none"> - dashboards for aggregating patron and user review stats for the sake of producing insights 	14 15 16 17 22 23 24 25	This is the second prong by which we differentiate our product to business owners
onboarding	<ul style="list-style-type: none"> - search and identify new, target businesses - verify and initialize business owner accounts - streamlining the process by which users download the app and import their social media account to create a Rek account 	01 02 03 04 05	Now that we have a base-level of differentiating functionality, we can begin to onboard businesses and, from there, those businesses' patrons
user engagement and networking	<ul style="list-style-type: none"> - invite friends to join - share promos with friends - check-in and mark referrals or be prompted with your remaining coupons 	08 13 18 19 20 21	With some initial mass of app users, this is the functionality by which we accelerate user growth

success metrics

launch rate

Defined as “The percentage of people who download the app, actually launch it, and create an account”. This applies both to businesses and patrons. We want to know how well this works in particular with incentivized app downloads.

retention

More specifically, we measure this in terms of **daily active users** for businesses and **monthly active users** for patrons.

virality

This is especially important among that first and second wave of onboarded patrons. We would like to know the extent to which they share this app with friends and the extent to which those friends actually go through the complete sign up process.

notification efficiency

On the patron side, a lot of the user engagement is built upon sharing with their network. We would like to know the extent to which a notification is acted upon when an invite or promo is shared.

Additionally, we would like to know the extent to which people check-in when notified, when they reference a referrer when notified and when they utilize promos/coupons when notified.

customer acquisition cost

Seeing as we offer monetary incentives to onboard patrons, we would like to know the total cost and which new businesses had the highest utilization of these promos.

metrics for fake review adjudication

We would like to track the **time to complete a task** for a business owner. More specifically, the time it takes for them to remove fake reviews from their platform. Positive stats here validate our thesis as a more efficient platform for combatting fake reviews.

Lastly, we want to track the amount of fake reviews pruned from the platform and how long, on average, it takes to adjudicate those fake reviews.