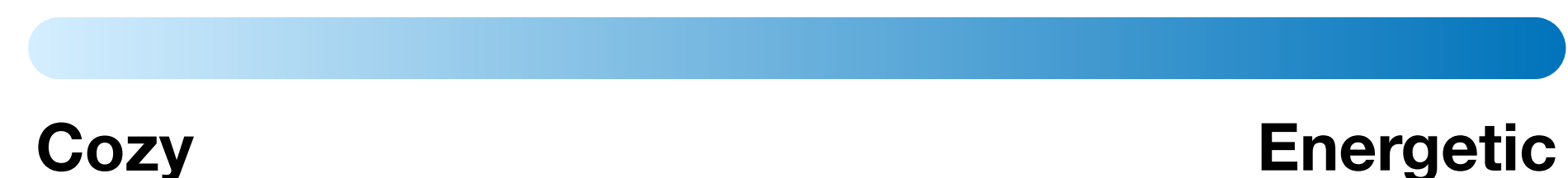# It's Friday Night and Aaron's looking for a date spot.

He's on Yelp, but star ratings and dollar signs can't capture the 3 key social factors important to him.

AMBIENCE

Cozy   **Energetic**

ENVIRONMENT

Casual   **Formal**

FOOD

Fast Food   **Michelin Rated**

KEY CUSTOMER INSIGHT

Social factors are often strong constraints on venue selection.

Users increasingly expect personalized experiences.

According to Harvard Business Review, a more personalized product or service is 1 of 6 keys to a successful transformative business model

SEGMENT LEADERS PROVIDE PERSONALIZED EXPERIENCES

facebook

Spotify

NEWS FEED	RECOMMENDATIONS
27%	+37%
of all FB browsing	artist diversity since '14

- 85% of Facebook's Revenue
- #1 most interacted with feature
- **Penetration: 50% of all Online Users**

- Acquired Niland in 2017 to improve search & recommendations
- **#1 in Music Streaming Subscribers**

KEY MARKET INSIGHTS

Yelp should personalize recommendations and search results to solidify it's position as a market leader.

Yelp is the only platform that combines discovery and transactions.

Since its competitors have the advantage of focusing on a smaller domain, Yelp needs to leverage its discover data to drive transactions

YELP'S COMPETITORS FOCUS ON EITHER DISCOVERY OR TRANSACTIONS

Google / tripadvisor	OpenTable / UBER EATS / GRUBHUB	yelp
▼	▼	▼
- **Discovery**: Reviews & Business Info	- **Transactions:** Delivery & Reservations	- **Discovery**: Reviews & Business Info - **Transactions:** Deliver & Reservations

KEY INDUSTRY INSIGHTS

Yelp needs to find synergies between discovery and transactions to avoid being outmaneuvered by specialized competitors.

Yelp's mobile strategy will be key to continued growth.

According to Forrester's US Consumer Technographics Behavioral Study:
"Consumers spent 85% of time on smartphones in native apps"

YELP'S RELIANCE ON WEB LEAVES IT VULNERABLE TO COMPETITORS

MOBILE GROWTH	MOBILE APP REACH
87%	29%
of user growth since '15	of Yelp's mobile users
▼	▼
79% of all Yelp searches are now made on a mobile device	71% of Yelp's mobile users are **vulnerable** to web competitors

KEY TECHNOLOGY INSIGHTS

Yelp's needs to find a compelling proposition for its app in order to protect against dominant web competitors.

Finding a solution that aligns with Yelp's corporate goals.

Yelp needs to arrive at a dominant solution that synergizes discovery and transactions in order to avoid fighting a two front war with its competitors.

TRANSLATING YELP'S VULNERABILITIES INTO STRATEGY

Yelp's Business Risks	Strategy
1. Unhelpful/irrelevant recommendations	Provide recommendations that suit the person, place, and time
2. Increasing Competition	Leverage Yelp's advantage as the only end to end platform for food discovery and purchasing
3. Reliance on Web and Search	Provide a compelling reason for users to rely on Yelp's mobile apps

KEY TAKEAWAY

Yelp's needs a compelling proposition for its app in order to protect against dominant web competitors.

Goal: Increase the "stickiness" of Yelp

The Solution: yelp® BUTLER

1 Contextual, personalized recommendations

2 Genuinely helpful prompts and microtargeted ads
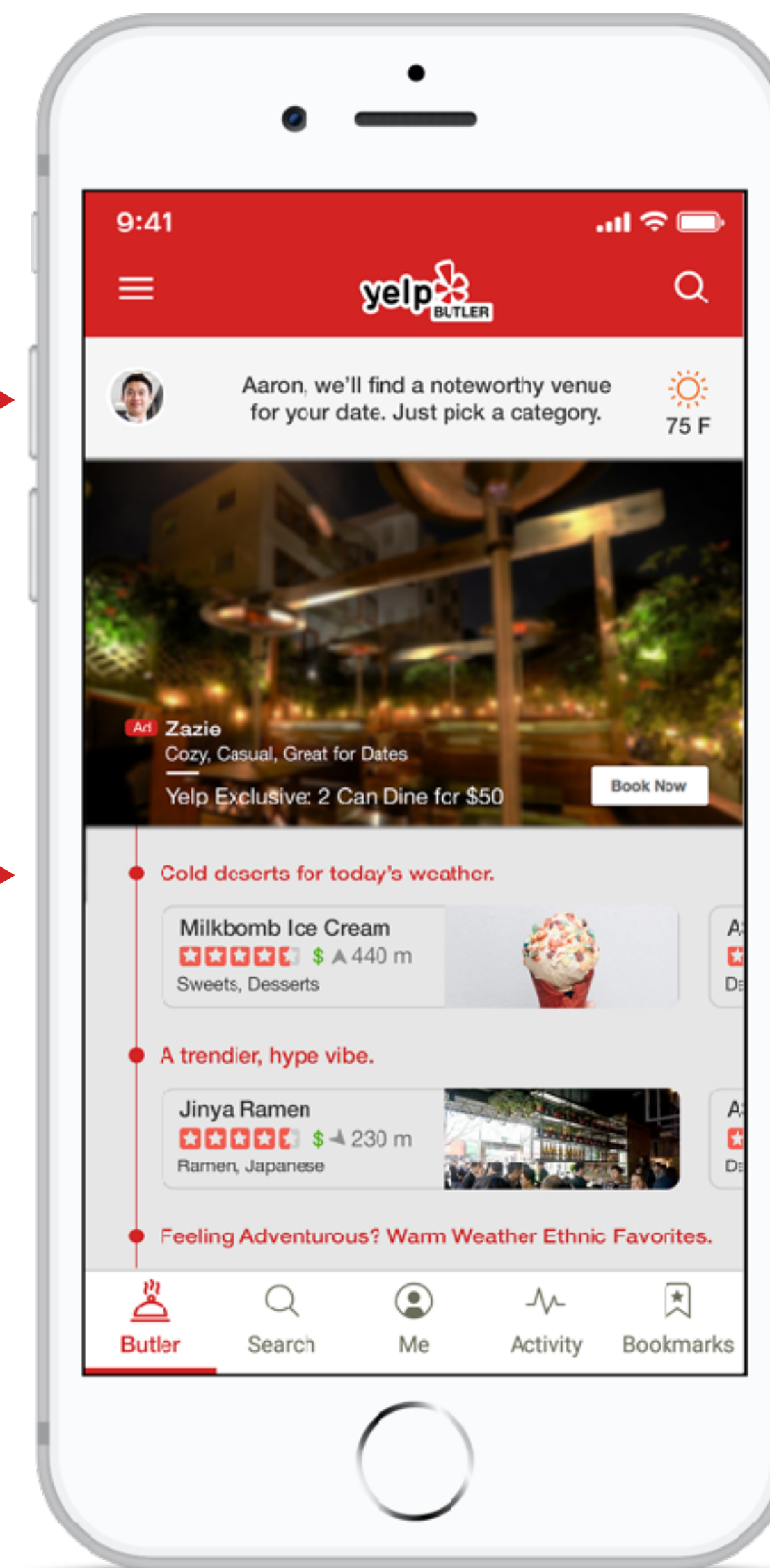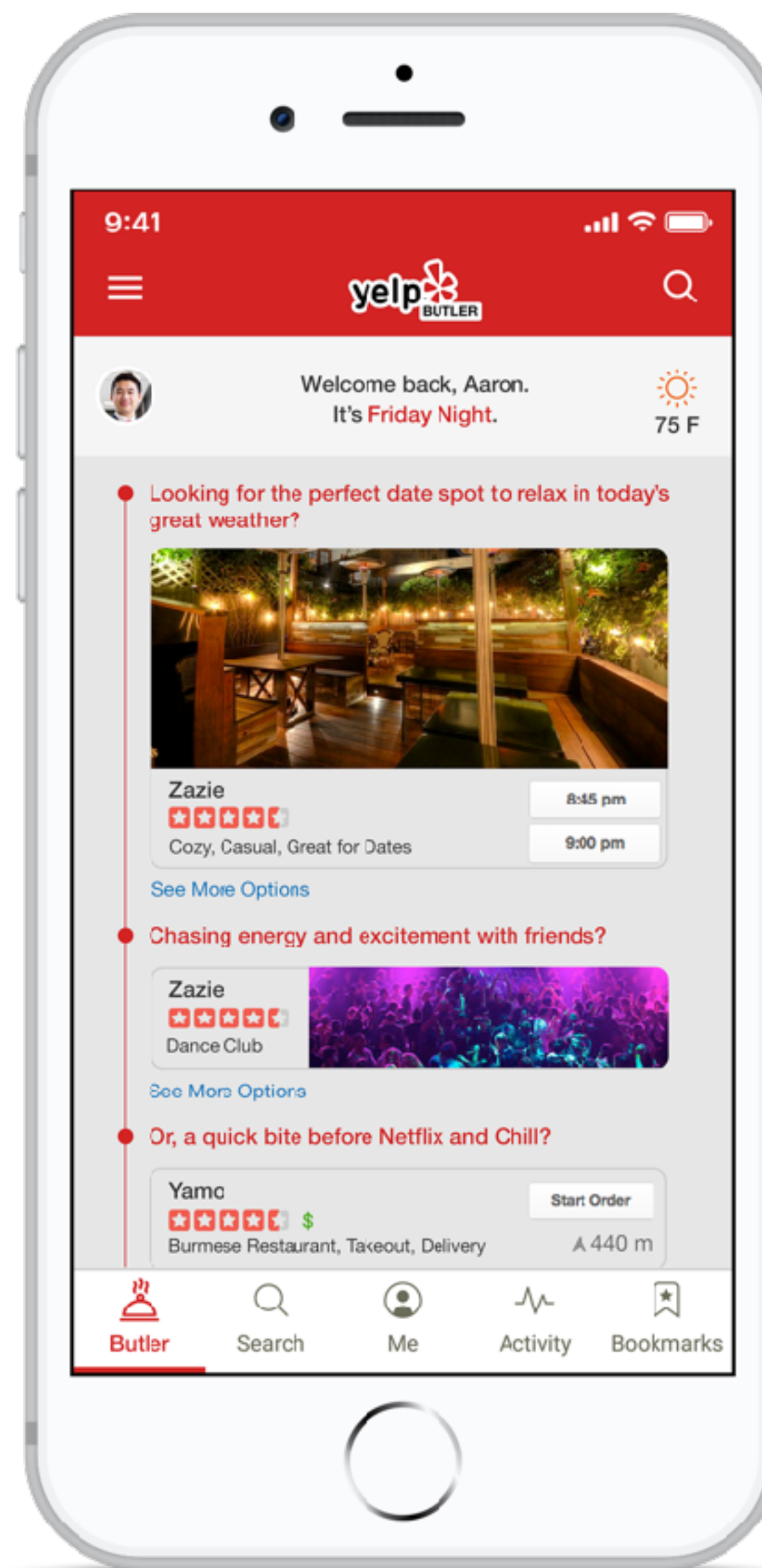
3 Exclusive to native mobile apps

Discovery

Yelp BUTLER

1 Contextual, personalized recommendations

User

- Reduces user pain of having to search multiple sources to find a good fit

Opportunity

Yelp

- **Increases "stickiness"** by fostering reliance on Yelp's recommendations
  - Isolates users from web search and content competitors

KEY TAKEAWAY

Recommendations made with context and human factors will help protect from search and content competitors.

yelp BUTLER

2

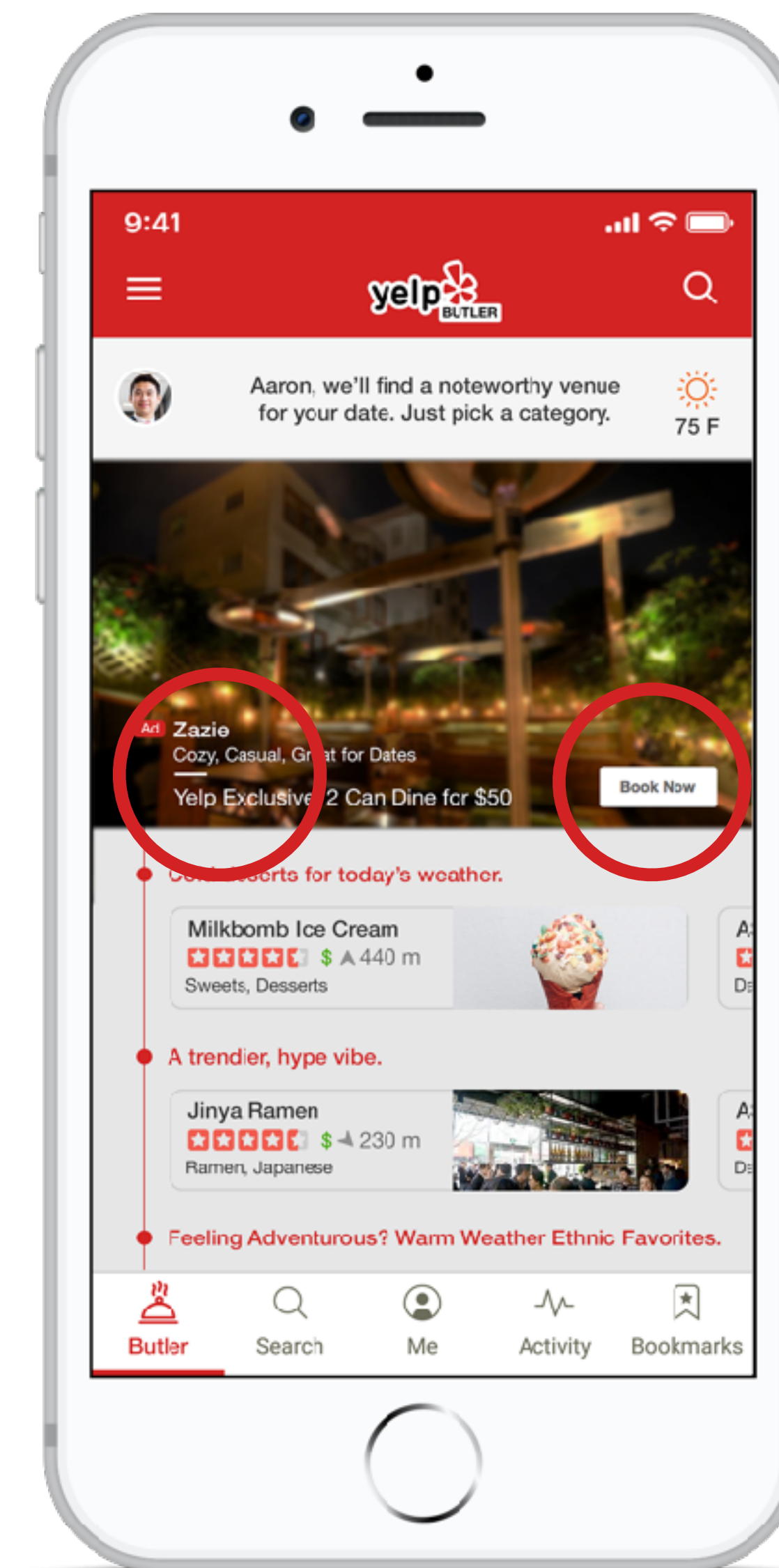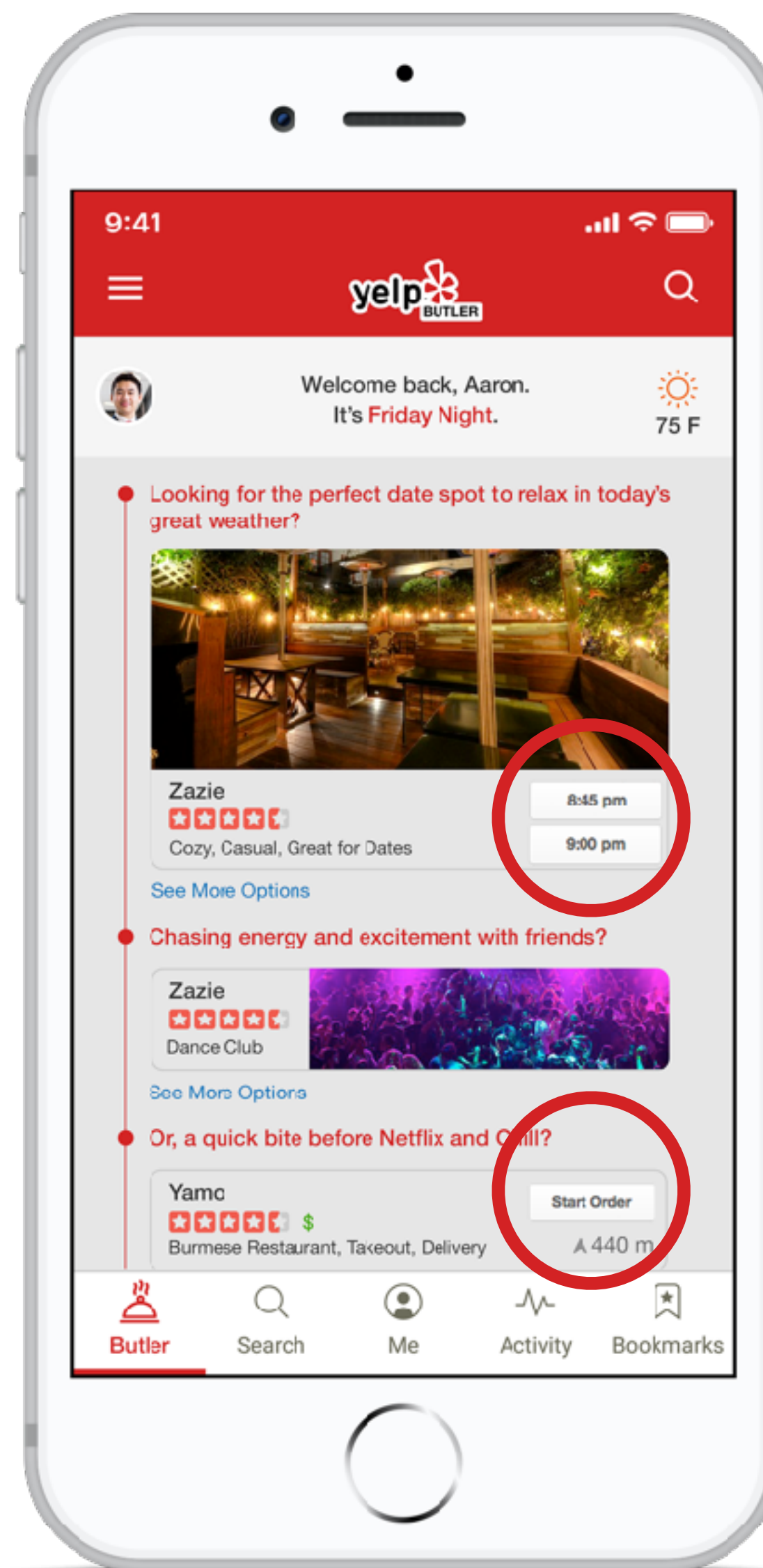## Genuinely helpful prompts and microtargeted ads

User

- Fulfills user's social task of venue selection
- Reduces ambiguity

▼ Opportunity

Yelp

- **Increased revenue** from selling/serving micro targeted promotions and campaigns
- **Being first to market** as the only concierge style transaction platform

KEY TAKEAWAY

Yelp Butler is designed to use prompts and rich visual ads to reduce ambiguity and drive transaction revenue.

Potential Tech Implementation

Yelp BUTLER

1. Classifying Businesses

Using existing reviews

- Determine features/labels for classification dimensions
- Utilize NTLK dictionaries of words for each dimension
- Tune NLP model via supervised ML applied to reviews & additional info

2. Modelling User Preferences
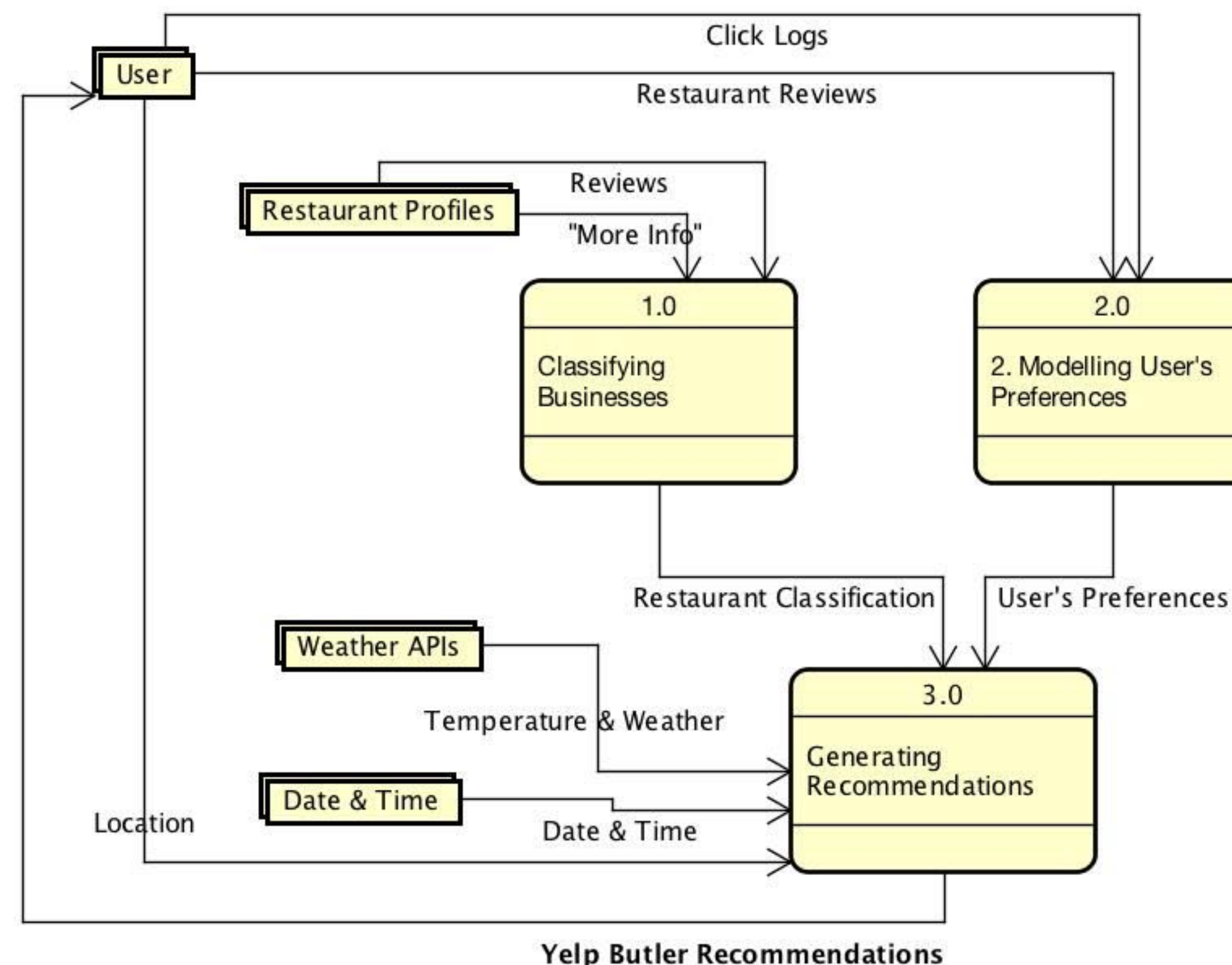
Through search behaviour and reviews

- Build SVM model with selected dimensions
- Monitor click logs to predict user preferences
- Compare user's reviews to restaurant classification to determine preferences

3. Generating Suggestions

Matching user preferences to businesses

- Setup MySQL database in AWS RDS
- Combine user preferences and business classification with context (time/date) to generate recommendations
- Prompt user to evaluate recommendations

System Diagram

Click Logs

User

Restaurant Reviews

Restaurant Profiles — Reviews

"More Info"

1.0 Classifying Businesses

2.0 2. Modelling User's Preferences

Restaurant Classification

User's Preferences

Weather APIs

Temperature & Weather

3.0 Generating Recommendations

Date & Time

Date & Time

Location

Yelp Butler Recommendations

KEY TAKEAWAY

Machine Learning (ML) and Natural Language Processing (NLP) techniques should be applied to generate recommendations.

1. Rewarding Existing Users
—
Soft launch to Yelp Elite Squad

- Rewarding esteemed members causes an <u>exclusivity effect</u> that can drive further growth
- Yelp Elite users have a strong history of search and review data - best case scenario for the suggestions engine

2. Validating Traction
—
Using Growth Metrics

- <u>**Stickiness:**</u> DAU / MAU
- **Reach**: Butler WAU / Yelp App WAU
- **Depth**: DW Search Volume / Yelp App Search Volume
- **Retention**: Butler week-over-week retention

3. Scaling Butler
—
Gearing up for general availability

- Prompt business owners to fill out "more business info" to improve categorization (e.g. attire, ambience, noise level)
- Invite engaged businesses to create Yelp butler exclusive deals

Cost Structure

*non-exhaustive: based on Glassdoor estimates for San Francisco and personal estimates

Timeline:
- 2 months - UX/UI design
- 1 Month - user tests to finalize UX/UI
- 6 months - building data models, supervised learning, recommendations engine
- 2 months - testing, fixes, revisions, hardening

Resourcing:
- 6 Data Engineers for 8 months @ 138k/yr
- 2 Data Scientists for 8 months @ 142k/yr
- 2 Designers for 2 months @ 106k/yr
- 3 Mobile Engineers for 2 months @ 130k/yr
- 2 Product Manager for 10 months @ 130k/yr
- 3 Account Managers for 1 month @ 70k/yr

Total Cost: $1,121k

KEY TAKEAWAY

Gauging Yelp Butler's traction and iterating be done through A/B testing with Elite users before scaling.