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Adaptive User Interfaces (AUI)

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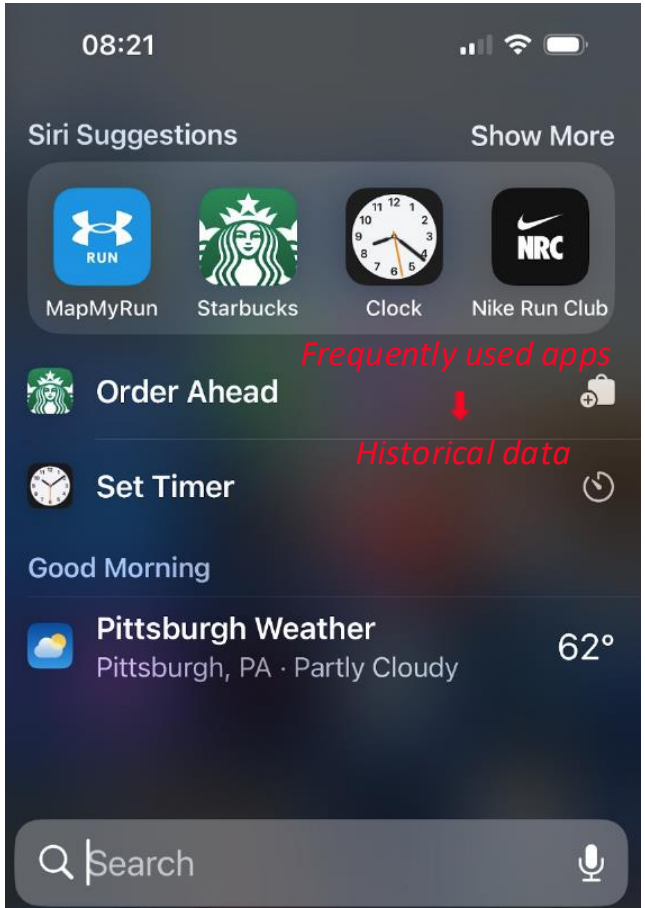
What is AUI?

*"..... where AI, particularly **simple and low-risk AI technology**, can be leveraged to reduce user interactions and enhance the overall experience. At its core, an AUI predicts user needs based on their past behaviors and patterns, **automating repetitive or tedious tasks**. This minimizes the effort required from users while ensuring **they retain control over the system."**[1]*



In this case:

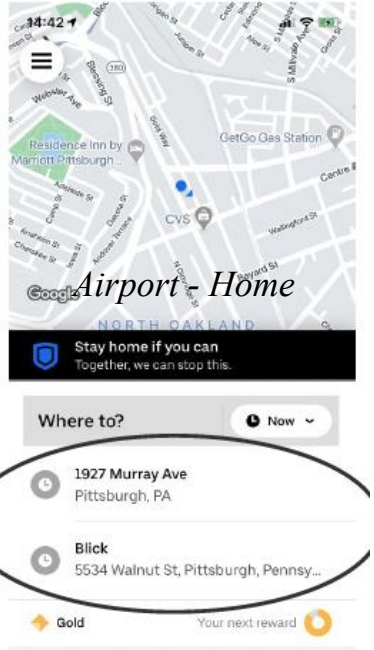
Simple and low-risk AI: Historical data(easy to catch and run)

Repetitive or tedious tasks: Manual input to search for a frequently used app

Retain control: If wrong suggestions, still have the search bar, no extra steps

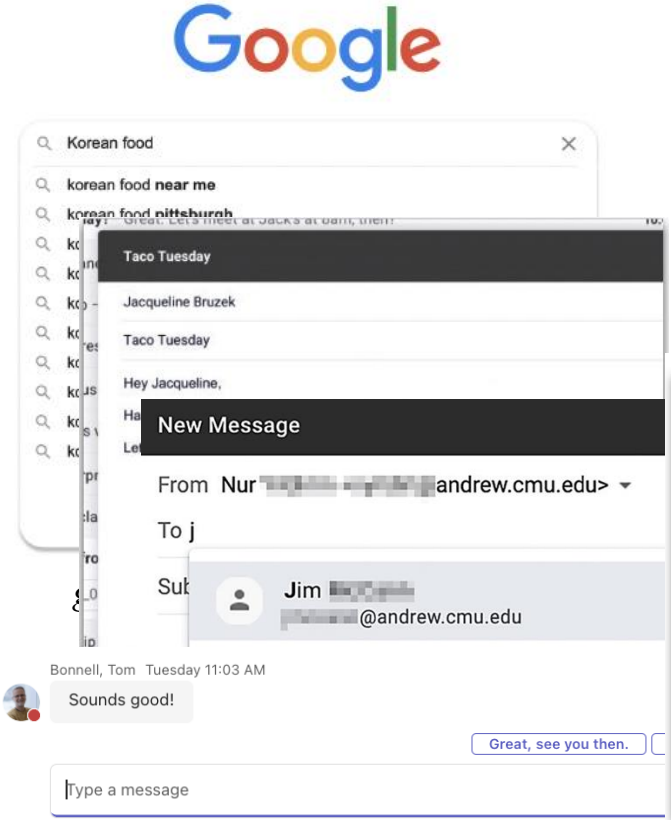
[1] John Zimmerman, Changhoon Oh, Nur Yildirim, Alex Kass, Teresa Tung, and Jodi Forlizzi. 2020. UX designers pushing AI in the enterprise: a case for adaptive UIs. interactions 28, 1 (January - February 2021), 72–77. https://doi.org/10.1145/3436954

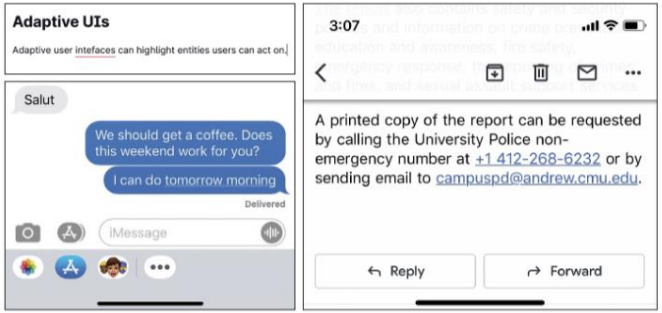
More Examples on AUI



ride-sharing app

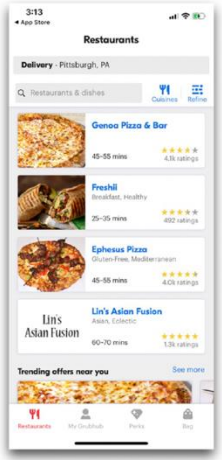
Where you go/Where you from/When you travel…etc.

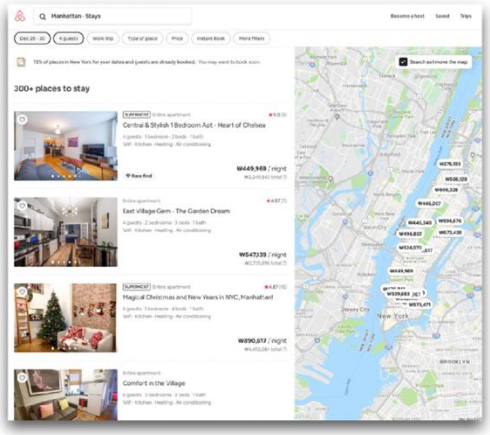




Highlighting actionable entities

Date(add on calender)/phone(quick call)





More Examples on AUI

Auto-filling in forms

Automatically populating web forms with user information, reducing the need for repetitive data entry. (Destination auto-fill, quick reply, search bar recommendation etc.)

Highlighting actionable entities

Detecting and highlighting entities (e.g., dates, times, numbers etc.) in emails or messages that can trigger actions.

Ranking choices

Presenting users with a ranked list of items they are most likely to need based on previous interactions. (like restaurants, hotels and amazons etc.)

ride-sharing app

Where you go/Where you from/When you travel…etc.

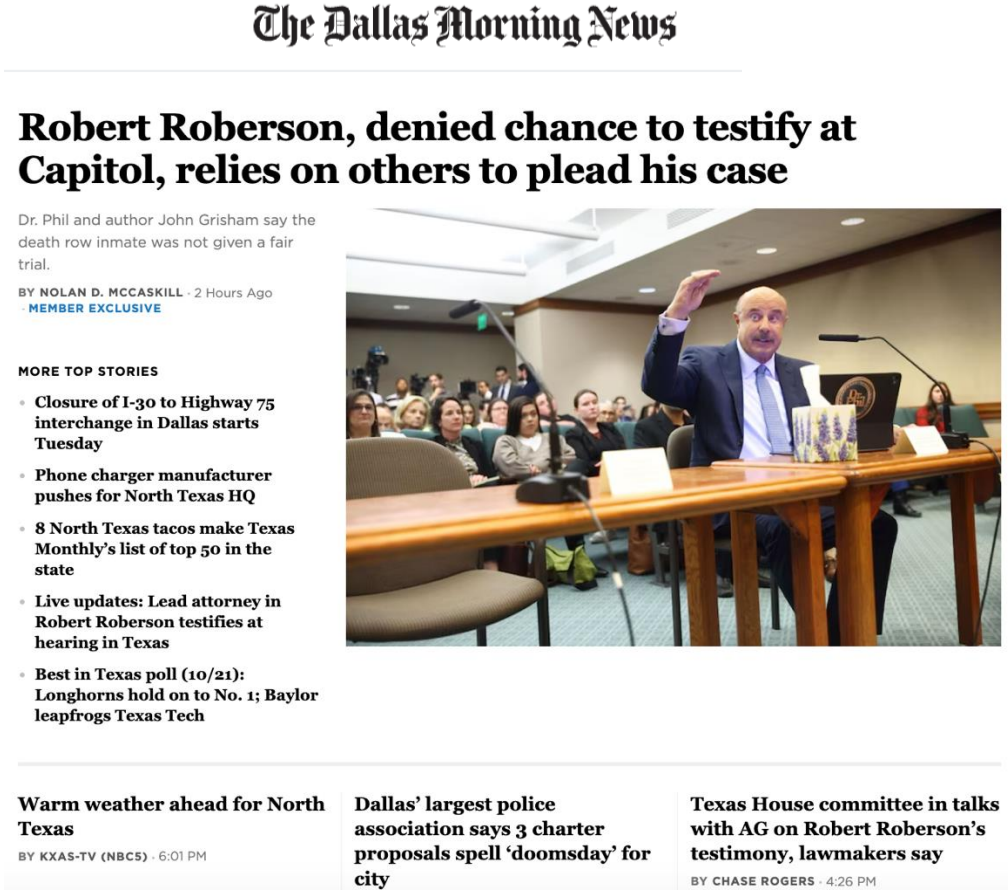
Bad AUI Example

Personalized News Recommendations

Repeatedly recommends similar content based on past behavior, ignoring diverse or changing interests.

Overly homogeneous recommendations lead to "echo chambers."

Fails to adapt to short-term interests, continuing to push irrelevant



The Dallas Morning News

Robert Roberson, denied chance to testify at Capitol, relies on others to plead his case

Dr. Phil and author John Grisham say the death row inmate was not given a fair trial.

BY NOLAN D. MCCASKILL · 2 Hours Ago
· MEMBER EXCLUSIVE

MORE TOP STORIES

- Closure of I-30 to Highway 75 interchange in Dallas starts Tuesday
- Phone charger manufacturer pushes for North Texas HQ
- 8 North Texas tacos make Texas Monthly's list of top 50 in the state
- Live updates: Lead attorney in Robert Roberson testifies at hearing in Texas
- Best in Texas poll (10/21): Longhorns hold on to No. 1; Baylor leapfrogs Texas Tech

Warm weather ahead for North Texas

BY KXAS-TV (NBC5) · 6:01 PM

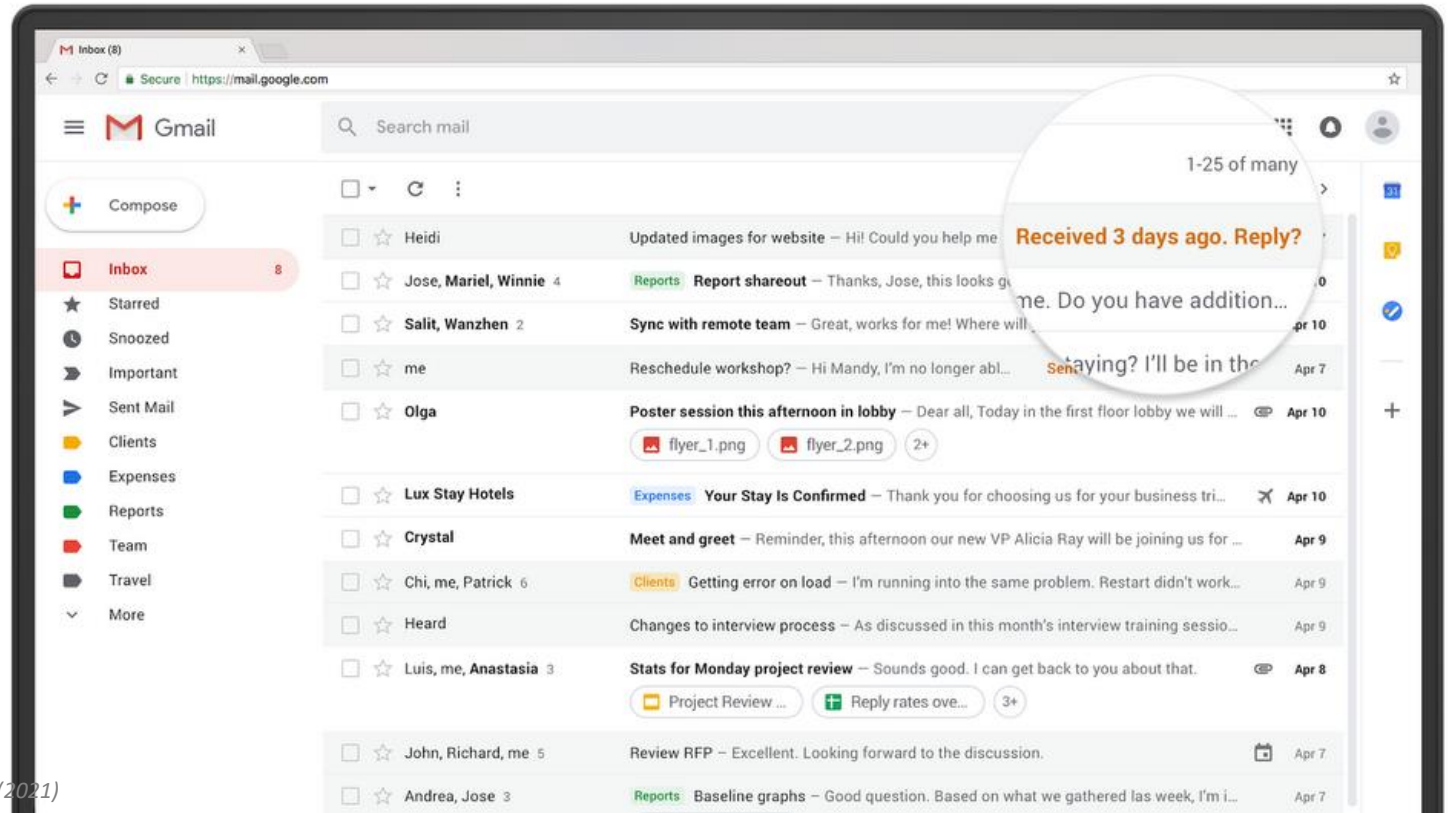
Dallas' largest police association says 3 charter proposals spell 'doomsday' for city

Texas House committee in talks with AG on Robert Roberson's testimony, lawmakers say

BY CHASE ROGERS · 4:26 PM

Why is AUI?

AUI is becoming more and more important in big companies cause user prefer personalized Experiences so much.[1]



[1] *The value of Personalization, McKinsey(2021)*

Why is AUI?

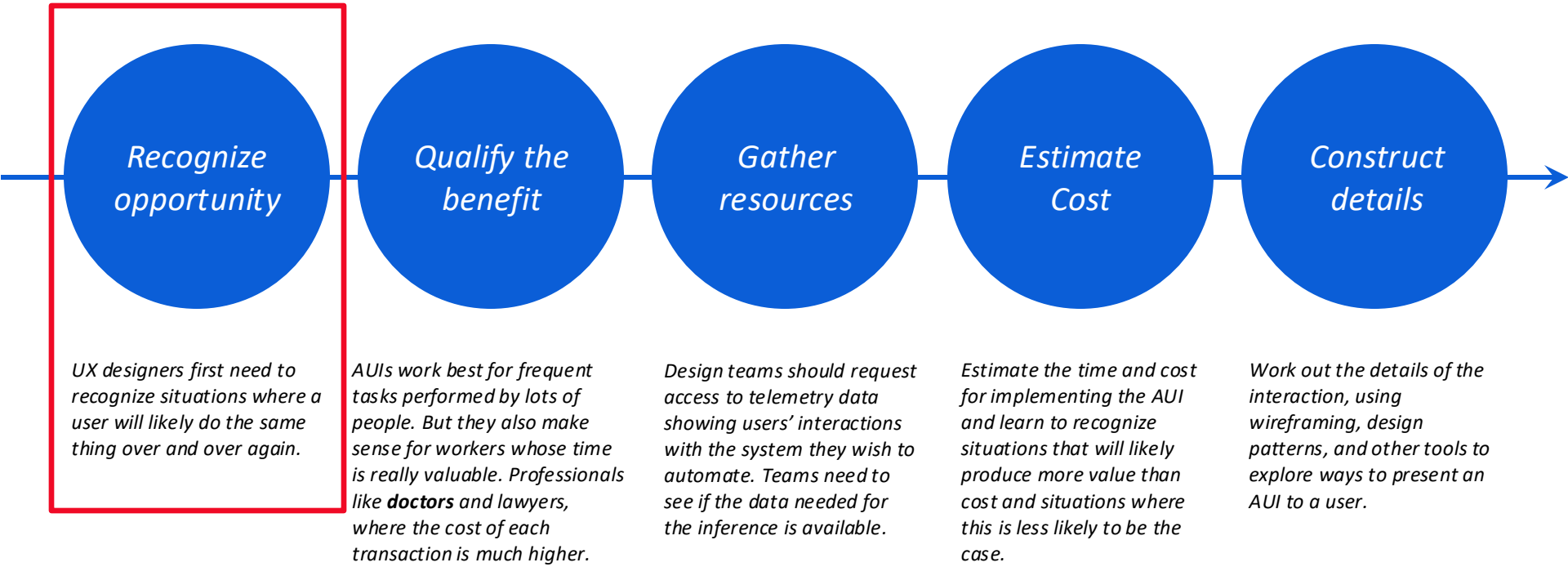
Designers should learn to recognize AUI opportunities

"We propose that UX designers are the right innovators to incorporate AUIs into enterprise apps. UX designers are uniquely positioned to recognize situations where an AUI might help because they view the world through the eyes of the user. They can anticipate situations that will occur frequently, impact a large number of users. However, UX designers receive no training on AUIs. "

"Innovation with AUIs takes place at design time, when development teams are creating new interfaces or performing a major overhaul of existing interfaces. They are different from many other AI innovation initiatives because the opportunity to use them is most easily recognized by UX designers."

Reference:
[1] John Zimmerman, Changhoon Oh, Nur Yildirim, Alex Kass, Teresa Tung, and Jodi Forlizzi. 2020. UX designers pushing AI in the enterprise: a case for adaptive UIs. interactions 28, 1 (January- February 2021), 72–77. https://doi.org/10.1145/3436954
[2] Qian Yang, John Zimmerman, Aaron Steinfeld, and Anthony Tomasic. 2016. Planning Adaptive Mobile Experiences When Wireframing. In Proceedings of the 2016 ACM Conference on Designing Interactive Systems (DIS '16). Association for Computing Machinery, New York, NY, USA, 565–576. https://doi.org/10.1145/2901790.2901858

How to use AUI in enterprise?

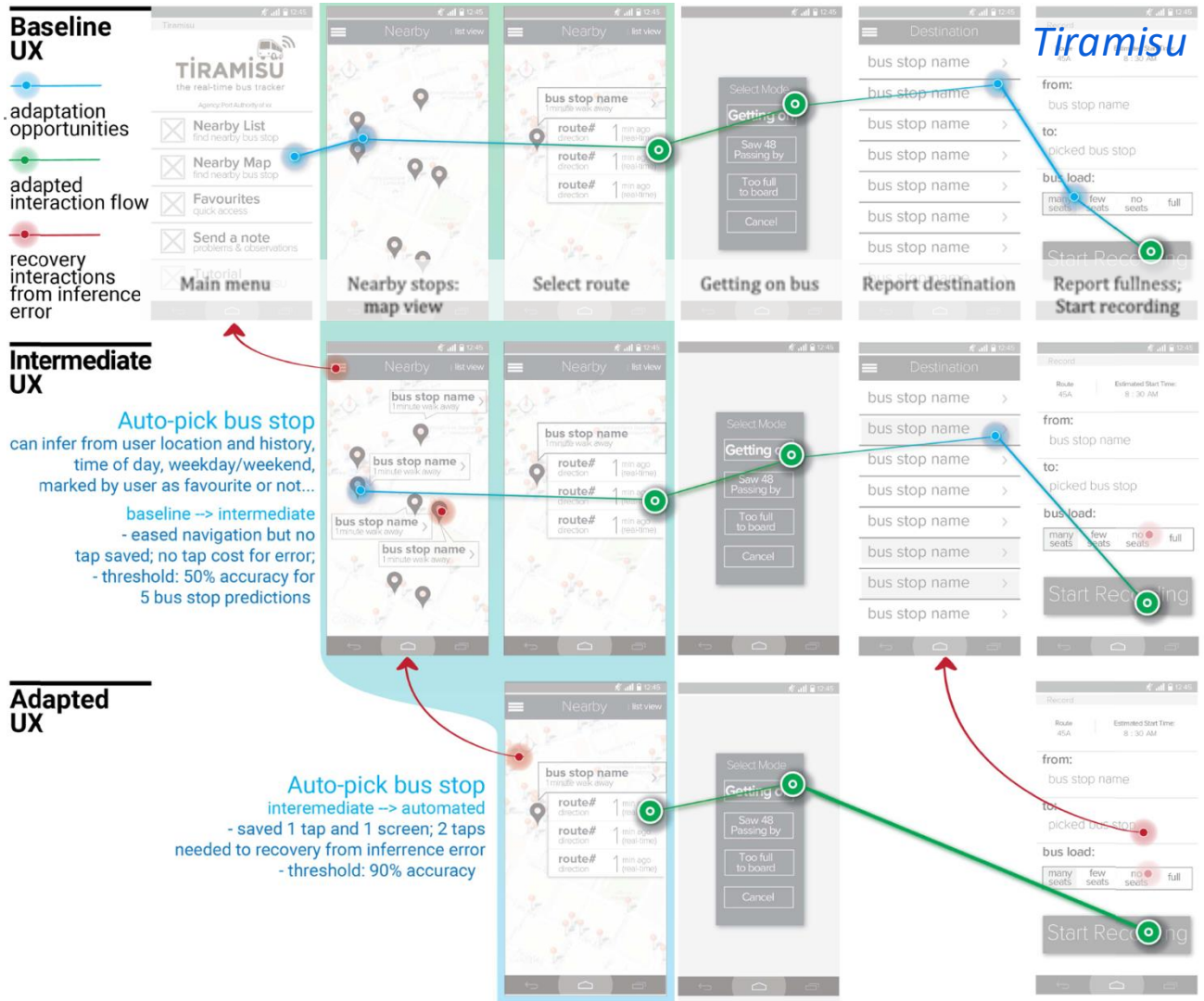


Business Case

1. How to Recognize AUI opportunities ?
2. How to annotate the interaction flow?

Saved 4 taps and 3 screens.
Over 90% accuracy

*Low-risk AI don't need to be 100% accuracy. It's not harmful and easy to recover from it.



Thank you!

(And go back to SR&C AUI opportunities!)

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