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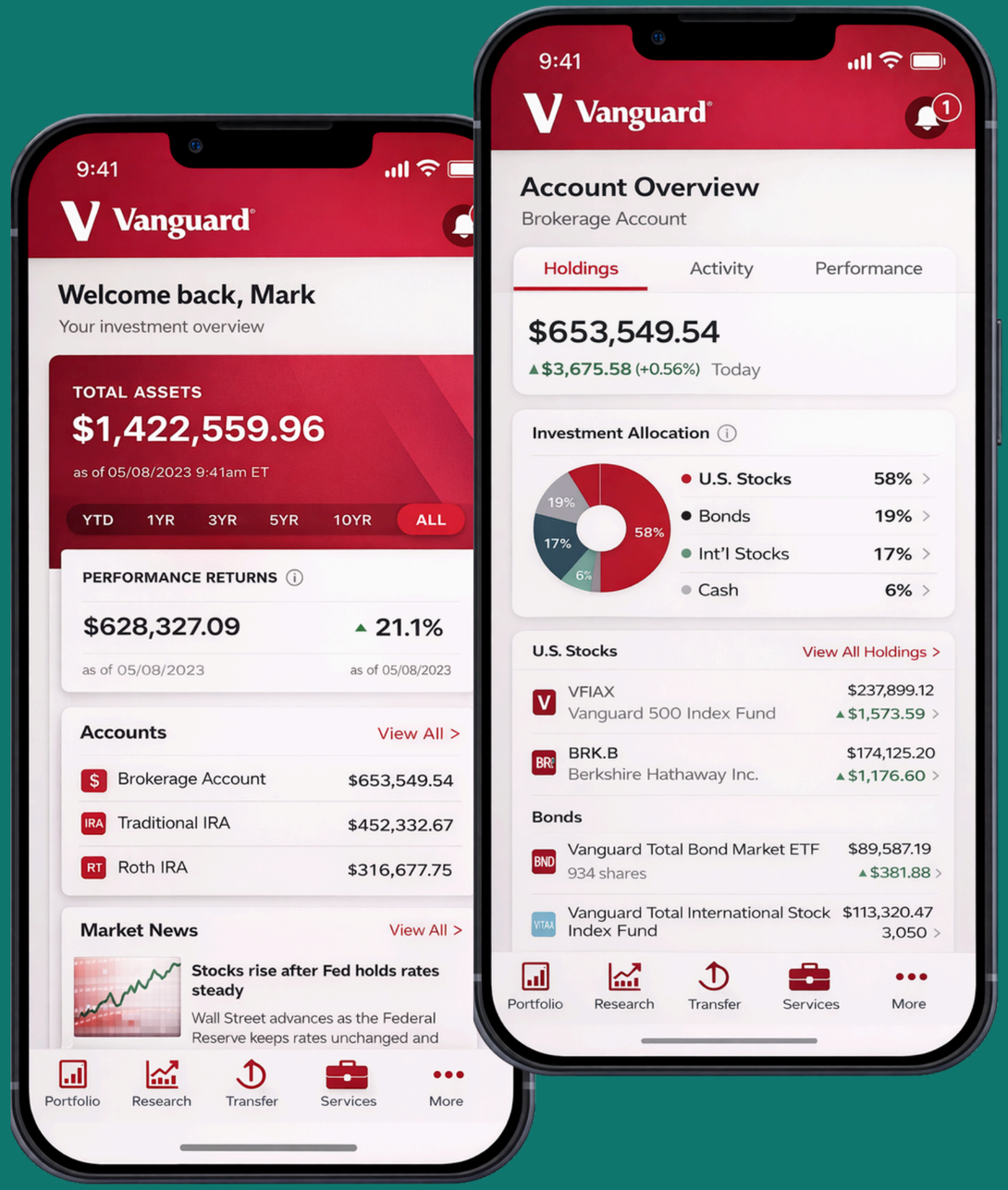
Investment App Redesign



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www.greyjoyux.com

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Launching of a new digital interface

CONDUCT OF AN A/B TEST OVER 14 WEEKS TO EVALUATE ITS IMPACT

OUR GOAL

Determine whether the redesigned interface increases conversion and improves user experience versus the original platform.

TIMELINE

March 15 - June 20, 2017

TOTAL SAMPLE

Over 50,000 users

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Our research design

DATA SETS USED

Customer demographics

Unique customer data on gender, age, tenure, accounts used, balance, and support requested that last 6 months.

Web Interaction

Customer logs and interactions with the app, giving us detailed information about distinct visits, process step reached and time stamps.

Experiment grouping

Customer segmentation data between Control and Test groups.

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RANDOMIZATION CONTROL AND POTENTIAL BIASES

1.

Session Fragmentation

A single client producing several visitor_id values within the same experiment window may represent broken sessions rather than distinct attempts. Threshold ~5 minutes.

2.

Arm mislcassification

Each client_id appears exactly once and in exactly one group in the experiment file. If duplicates appear or if a client_id in the web logs is missing from the experiment file, flag and exclude.

3.

Control and test group similarity

Making sure there have been no internal biases when splitting the two groups, and they maintain similar demographical and usability characteristics.

4.

Session multiplicity

Wardiere is the ultimate navigation app for travelers seeking breathtaking routes, hidden gems, and unforgettable experiences.

5.

Step order anomaly

For each client_id, verify that process_step never jumps backward by more than one. Small backward moves usually indicate page refreshes. Large jumps indicate noise.

6.

Temporal truncation

Wardiere is the ultimate navigation app for travelers seeking breathtaking routes, hidden gems, and unforgettable experiences.

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DATAFRAMES CREATED AND DATA ADDED AS CALCULATED FIELDS

Demographics dataframe

Used for our client behavior analysis

Unique client dataframe

A dataframe aggregating session information in distinct client_id, useful for Client-level diagnostics

- Flag for converted session (True or False)
- Total duration per session
- Number of sessions per customer
- Number of attempts per session

Process step dataframe

A dataframe maintaining information on a per process step level, for our per_step KPIs analysis

- Distinct step duration
- Step difference counter to check for UX anomalies
- Error indicator per step
- Number of attempts per session
- A drop-off flag

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Limitations

OPPORTUNITIES TO FUTURE ANALYSIS

1. **TIME HORIZON**

   Adding ~6+ months of tracking would help corroborate the current finding

2. **BEHAVIOURAL DATA**

   Adding surveys and interviews would help to bring the customer perspective

3. **CONTEXT FOR INTERPRETATION AND IMPACT SIZING**

   Adding device segmentation and tracking users over time would help to quantify durable impact

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Customer behavior analysis

Link to dashboard

Age

Older users log in more often, spend more time in app, but need more support

Higher engagement, higher effort

Tenure

High-tenure users spend more time and need slightly more attempts to convert

Adjustment effect for long-term users

Accounts

More accounts lead to higher time spent in the app

More complex tasks take more time

Gender

Nearly balanced distribution

No clear behavioral differences by gender are observed

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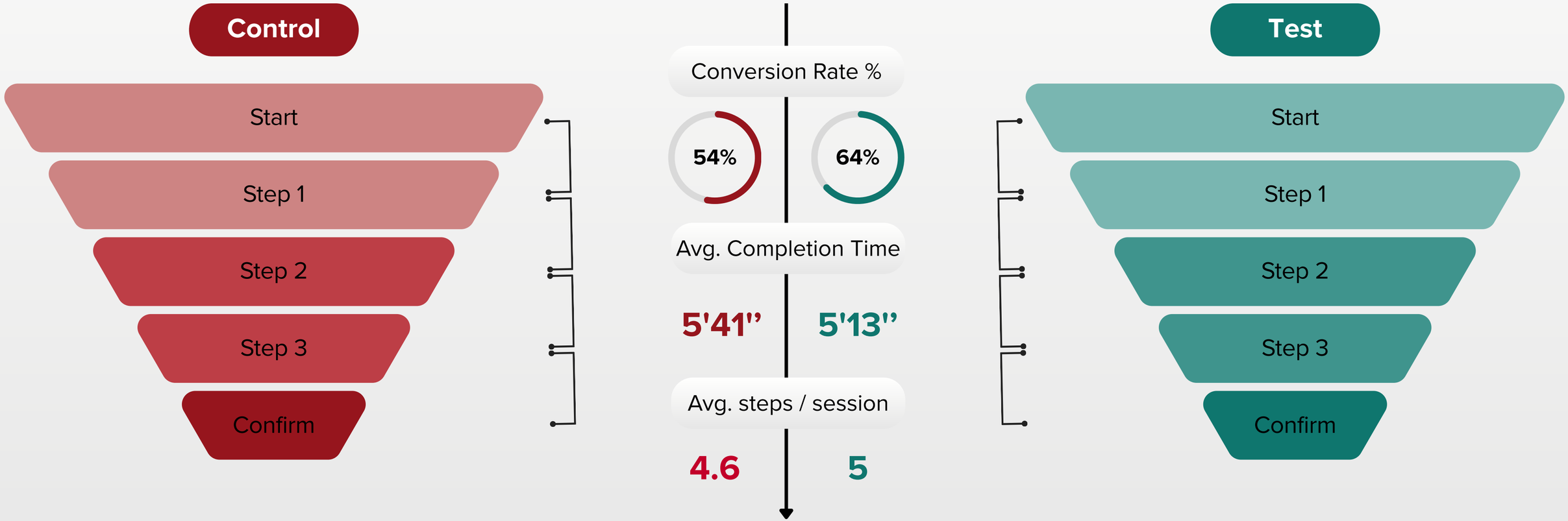
Experiment results & KPIs

CLIENT LEVEL DIAGNOSTICS



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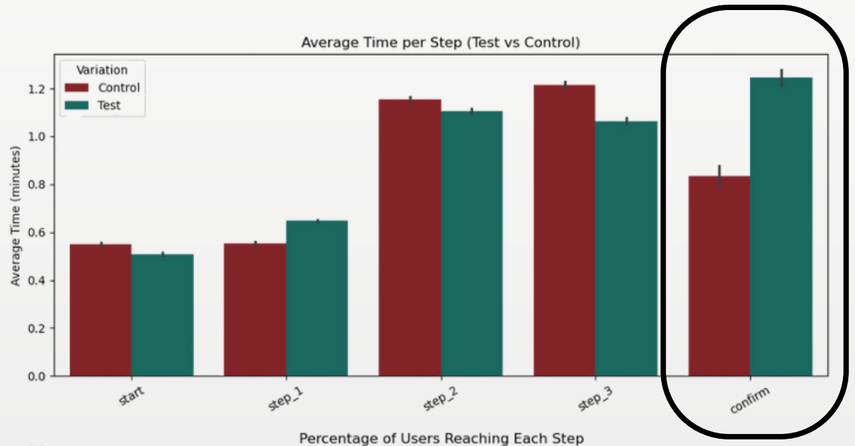
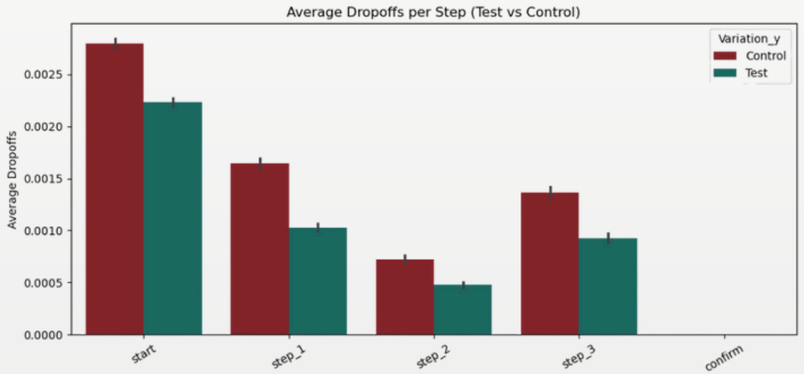
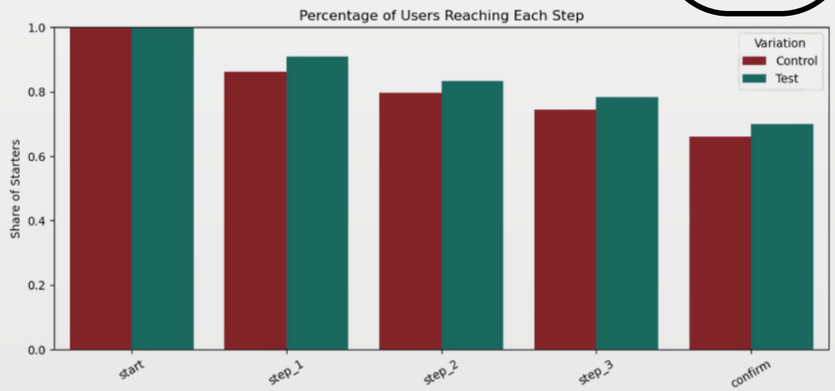
Experiment results & KPIs

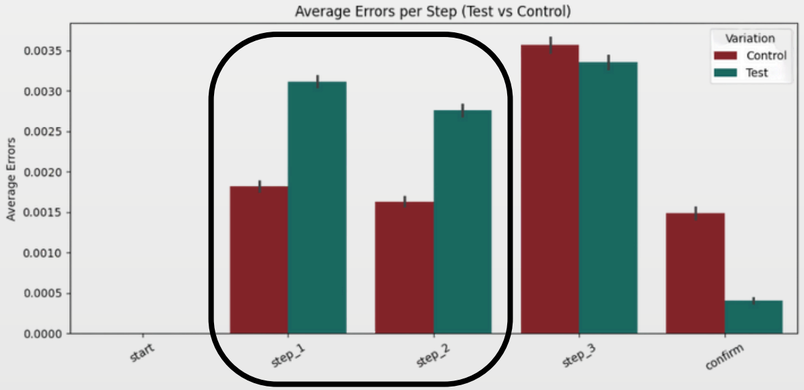
STEP LEVEL DIAGNOSTICS

Confirmation stage time increase can be explained due to the added security features.









Errors at this stage can be explained psychologically as a surprise element for the test users.

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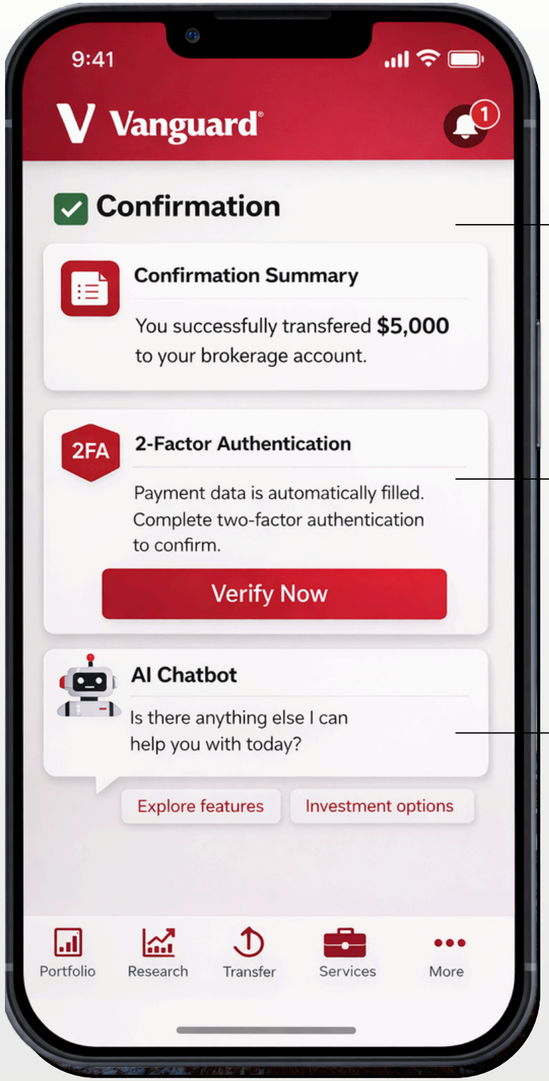
CONFIRMATION PAGE

The features that explain the increase of time spent in the final step, while conversion rate increases by:

18%



Confirmation summary

Added to provide users with extra transparency about their actions.

2FA on payment processing

For added safety, users now need to do a 2-factor authentication to complete the transaction.

AI chatbot

An AI recommendation notification that provides a score to the latest transaction of the user, based on their current portfolio strategy.

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Hypothesis & Statistical Significance

CONVERSION RATE

Hypothesis

Null hypothesis (H_0): There is no difference in completion rate between Test and Control groups

p_test = p_control

Alternative hypothesis (H_1): The Test group has a higher completion rate than the Control group

p_test > p_control

Statistical Test

- Z-test for proportions (binary outcome: completed / not completed)
- Significance level: α = 0.05

Result

- The Test group shows a higher completion rate
- p-value < 0.05 → Reject H_0

Therefore, the increase in Conversion Rate is statistically significant.

COST-EFFECTIVENESS THRESHOLD

Business Context

Introducing a new UI design involves costs:

- Design & development
- Testing & deployment
- Training and short-term disruption

We perform a minimum effect (non-inferiority / superiority margin) test

Δ = Test − Control conversion rate.

- H_0 (null): Δ ≤ 0.05. The improvement is not large enough to justify cost.
- H_1 (alternative): Δ > 0.05. The improvement meets or exceeds the cost-effectiveness threshold.

Metric Evaluated

Absolute lift in completion rate:

- our ci_low = 0.09 > 0.05
- A bootstrap analysis estimates a completion-rate lift of 9.9 percentage points, with a 95% confidence interval, entirely above the 5% cost-effectiveness threshold.

Therefore, the redesign meets cost-effectiveness threshold.

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Extra Hypotheses

The new design improves conversion for high-friction sessions

H_0: For high-friction sessions, conversion is the same in Test and Control

H_1: For high-friction sessions, conversion differs between Test and Control

Completion among struggling users increased from 44.1% to 49.9% with the new design.

P-Value: ~ 0.00

The new design makes the experience more consistent

H_0: Completion time variability is the same for the Test and Control groups.

H_1: Completion time variability differs between the Test and Control groups.

The new design delivers consistently lower completion times than the old design.

P-Value: ~ 0.04

The new design benefits all users equally regardless of engagement

H_0: The lift is the same across all engagement levels

H_1: The lift is not the same across all engagement levels

Though the new UI benefits all users, high-engagement users benefit the most.

P-Value: ~ 0.00

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Recommendations

01

BETA Launch

Introduce the new design to a limited range of customers globally.

02

Educational Content

Add new supporting material and video tutorials that guide users through each step.

03

User Feedback

Apply improvements and refinements directly based on customer input and real-world experiences

04

Optimize inefficiencies

Fix step errors and drop out issues observed in the new design.

05

Growth

Deliver more complex and specialized tools tailored for expert users and demanding scenarios

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Conclusion

RESULTS OF LAUNCHING OF A NEW DIGITAL INTERFACE

DOES IT WORK?

The new design seems to work pretty great, increasing **conversion rates** by **18%**, while decreasing **average total completion time** by **8%**, and average time per step, with smaller variations in time per step.
Also, more users consistently make it to the next step, at each step. The test phase was already financially viable even in this small time window, which suggests us that the cost benefit will increase with time.

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Thank you!

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