

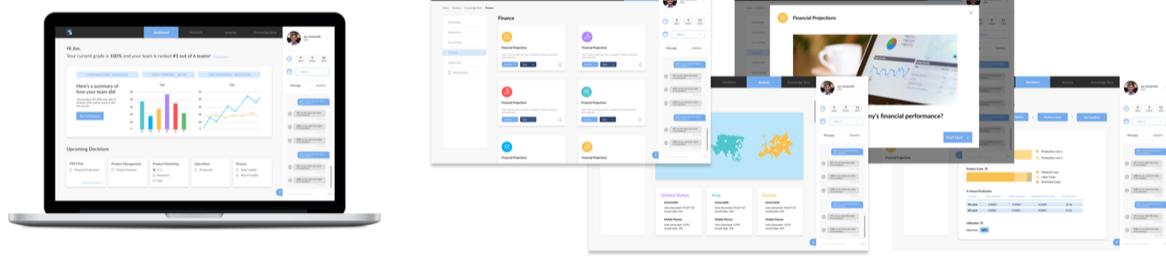
Market Games

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Product Design Consultants, Fall 2018

Project done collaboratively under Berkeley Innovation

Through [Berkeley Innovation](#) in the Fall 2018 semester, I worked as a Product Design Consultant for Market Games. For this project, we worked on rethinking Market Games' web app, in order to **improve the game's user experience as to cater to student learning patterns and gaming functions.**



The Problem

Market Games is a competition-based learning platform that seeks to gamify business learning experience as to replace the old-fashioned textbook. The game divides the classroom into teams — each team consisting of 4-6 members — with each team's goal being to achieve the highest amount of market share. Their results and involvement in the game affects their overall grade in the class.

Our client initially came to us with the task of **designing a mobile application for their game**. Our goal was to understand the following question: **how do we improve the user experience of the game as to enhance student learning through a mobile gaming platform?**

User Research

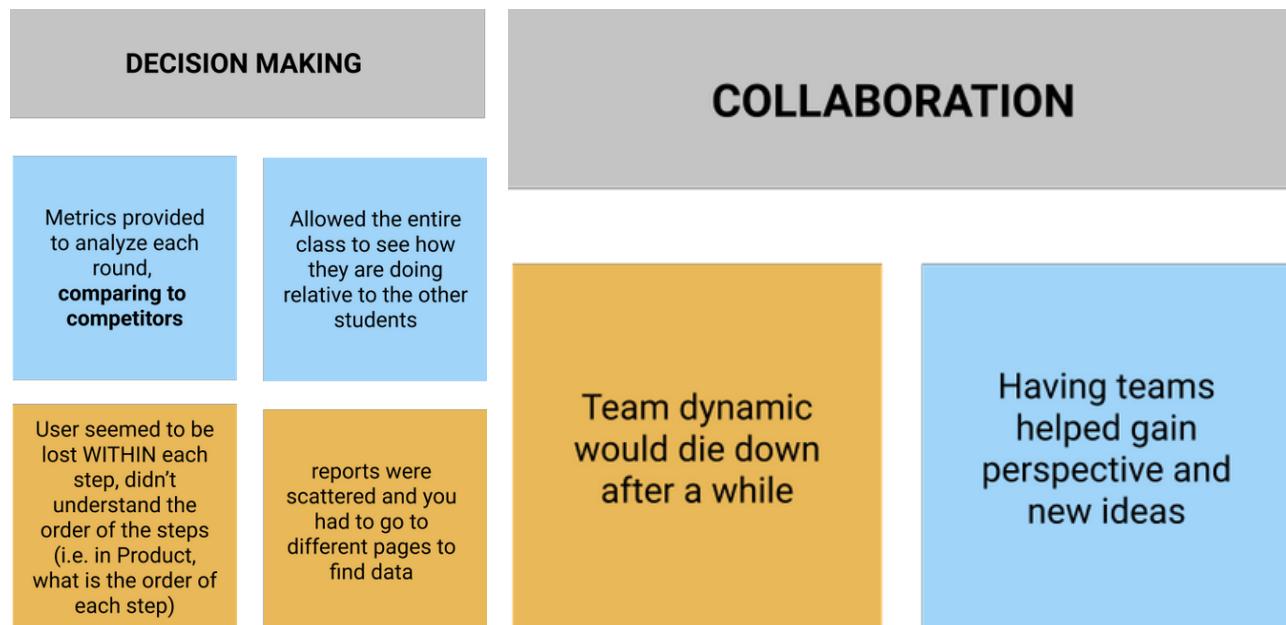
As the member in charge of leading the user research phase of the project, I led the development of a user research plan, and began by establishing three main research goals:

1. Business undergraduate learning styles
2. Establishing gamified learning
3. Current uses of mobile learning
4. Improving the usability of the current site

From there we created our **interview guide** into these four key goals, and came up with questions catered to each of these points. We divided the interviews into two main parts: 1) key learning questions; and 2) usability testing of the Market Games's beta web app.

After the interviews, we began affinity mapping our insights, and clustered the insights based on three "types" of insights:

1. Positive Feedback (blue notes)
2. Negative Feedback (orange notes)
3. Overall Trends (white notes)



| ENVIRONMENTAL LEARNING FACTORS | ONBOARDING | VISUALS | | | |
|--|---|--|--|---|---|
| <p>Mobile learning can be distracting with notifications from the phone</p> <p>notifications can get distracting, so she'll move away from the learning</p> <p>prefer discussion as opposed to straight lectures</p> | <p>Prefers to learn in public spaces. Private spaces = easier to get distracted</p> <p>"felt like i was doing each round to finish it, and not because I wanted to perform well"</p> <p>The more interaction in a learning environment the better</p> | <p>Steep learning curve for all the factors in the game that influence the simulation</p> <p>Story-style of business case made it much easier to understand and get through</p> <p>Short video in the beginning was helpful with understanding what to do</p> <p>So many little details in the game that are not easy to pick up</p> | <p>The team user guide that teaches you the basics is too dense and hard to get through</p> <p>Didn't know when to read the business case</p> <p>Did not understand how each role worked and its decisions work together</p> | <p>User wished there were more videos or graphics to understand each part of each step</p> | <p>More visuals were engaging (performance of products in various cities)</p> |
| | | | | <p>Difficult to use mobile device while learning bc screen is small</p> | <p>VISUAL LEARNER – reading is more skimming, less retention</p> |
| APPLICATION TO LEARNING MATERIAL | APPLICATION IN REAL LIFE | APP UI | | | |
| <p>Lack of connection to lecture material</p> <p>likes the application factor of gamified learning</p> | <p>Business isn't a subject to study through rote memorization</p> <p>Felt like it represented real life instead of just memorizing facts</p> <p>Not much connection back to real life applications and problems</p> | <p>Likes to see application of content in real world to see relevance to life</p> <p>Product was not relatable so it was a little harder to relate in terms of marketing and production</p> | <p>User did not notice the tabs at top for each step of the game</p> <p>Kept reclicking on the "welcome to Market games" button</p> <p>Capsim UI interface is too confusing/dull to follow along</p> | <p>Was not able to view any metrics</p> <p>10x better UI and easier to navigate</p> <p>Time frame of the game was confusing</p> | <p>Progress updates every week</p> |
| | | | | | <p>Question marks next to each parameter helped understand how they influenced the simulation</p> |

From the mapping, we developed the following **key insights**:

1. Students do **prefer learning through projects** and discussion, as opposed to just lecture and readings.
2. Students stressed the game's connection to both **real-world application and in-class material**.

3. Students generally did not prefer mobile learning because it posed too many distractions.

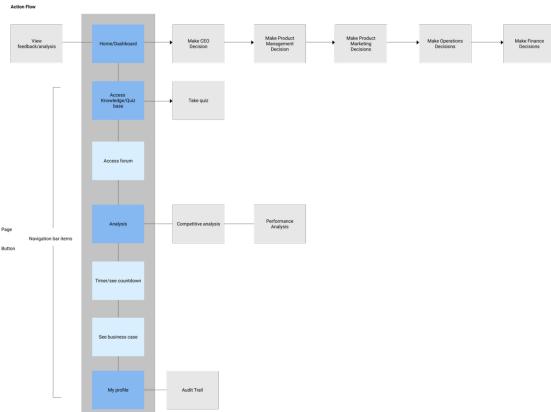
Given that we found mobile learning ineffective for students (illustrated in the last point above), we decided in order to cater to the best experience for the user, we convinced our client to change our project from that of a **mobile application to the improvement of the current web app**. We felt this would be best for students in the long-run, and so we were able to **pivot our project into developing a new web interface**.

Ideation

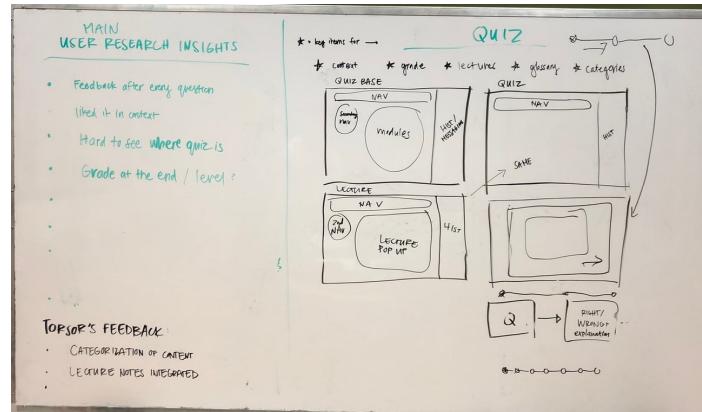
After seeing how the users interacted with the current beta we were able to pick out key changes we needed to establish in moving forward:

1. Creating a **more effective on-boarding** process that walks students through the UX, as well as their goals as a team and a team member.
2. As it is, there **is no single homepage/dashboard** to reference as a starting point.
3. Developing a **coherent flow** between the game itself, embedded quizzes, and the community forum.

Based on these ideation goals and former insights, we identified a few key touchpoints: **dashboard, decisions, knowledge base, analysis, and profile page**. From there, we developed a new, smoother, more effective **user flow** [Figure 1]. As we were beginning to prototype, to make sure we were on track for the ideation phase we went through a **bubble diagramming exercise**. In this process, we documented main user insights on the left, feedback from the client on the bottom left, and necessary elements on the top right. We used these findings to help guide the placement of assets on the page [Figure 2].

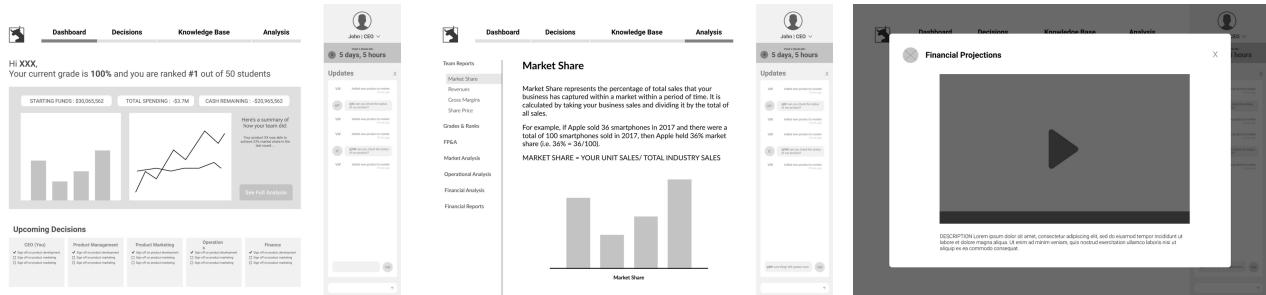


[Figure 1] New user flow.



[Figure 2] Bubble diagramming white-board exercise.

From there, we developed a set of low-fi and mid-fi prototypes, which we would add some color to take into our user testing.

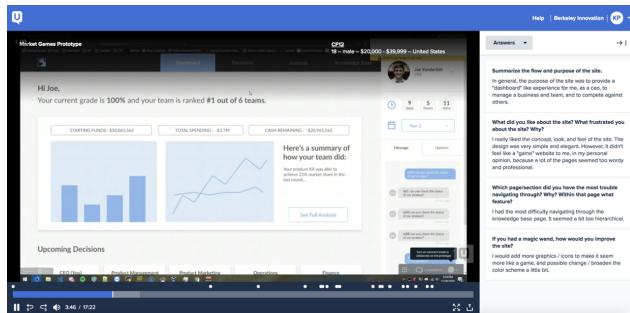


User Testing

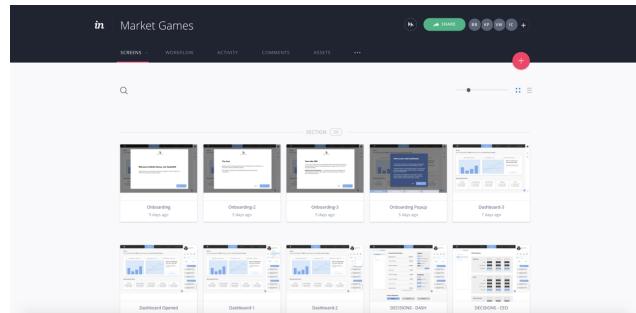
In usability testing of our low-fidelity prototypes, we decided to use **both in-person testing, as well as remote testing through [usertesting.com](#).**

Respectively, we did this to test:

1. if the organization and flow of the interface made sense **from a business standpoint**
2. if the flow was intuitive enough for the **basic user**



Using usertesting.com for quick insights on flow.



Creating our test in InVision.

We came up with a set of insights catered to each major touchpoint on our web flow, as well as insights based on general user experience. Summarized are the following key user testing insights:

1. Some UI effects we had added for visual pleasure had adverse affects on usability — such as adding shadows to navigation bars or adding color in unnecessary places.
 - We took out these effects and replaced them with simpler, more intuitive ones that would make the purpose of certain components more intuitive.
2. The copy for some of the categories were confusing for users (ex: "dashboard" vs. "team dashboard", or "round" vs. "year").
 - We got these terms clarified and changed with our client, which helped in differentiating components and touch points.
3. There was a lack of intuition of how the student should move through tasks.
 - We added visual cues such as arrows to indicate the next step a student should take in making a decision.

Final Mockup

We developed a color scheme and implemented this, as well as our testing insights, into our final iteration. We made a **whopping 36 screens** for our final deliverable, but I've included **6 key screens below**.

Feel free to check out our [InVision prototype!](#)

Dashboard

Decisions

Analysis

Knowledge Base

Hi Joe,
Your current grade is **100%** and your team is ranked **#1 out of 6 teams!** [View Details](#)

STARTING FUND: \$100,000 **TOTAL SPENDING: \$37,784** **CASH REMAINING: \$62,215.92**

Here's a summary of how your team did:
Your product \$4.25M was able to achieve 22% market share in the last month.

[See Full Analysis](#)

Title

| Category | Value |
|----------|-------|
| A | xx |
| B | xx |
| C | xx |
| D | xx |
| E | xx |
| F | xx |

Title

Marketing Operations Accounting **Finance** Leadership Bookmarked

Home > Analytics > Knowledge Base > Finance

Finance

Financial Projections
Learn how to forecast your company's future revenues and expenses.
[Outline](#) [Edit](#)

Financial Projections
Learn how to forecast your company's future revenues and expenses.
[Outline](#) [Edit](#)

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Upcoming Decisions

CEO (You)
 Financial Projects
[Complete Decisions](#)

Product Management
 Product Features

Product Marketing
 Price
 Promotion
 Sales

Operations
 Production

Finance
 Value Capital
 Return Capital

Type a message... [Send](#)

The screenshot displays a comprehensive business intelligence dashboard with several key sections:

- Header:** Includes navigation tabs for Dashboard, Decisions, Analysis, and Knowledge Base, along with user profile and search functions.
- Left Panel - Current Round Summary:**
 - Signoffs:** A summary of signoff status across various departments: CEO (Green), Product Management (Green), Product Marketing (Green), Operations (Yellow), and Finance (Yellow).
 - Product Name:** Information about the product's release date (Next Q2) and power (500W).
 - Costs:** Breakdown of spending by department: Product Development (\$20), Product Marketing (\$5), Operations (\$2), and Total Spending (\$200).
 - Features:** A summary of features: Resolution (4K), Sensitivity (7), Power (6), and Temperature (5).
 - Projections:** Future financial projections: Gross Profit (\$100), Operating Profit (\$50), and Net Profit (\$20).
- Financial Summary:** A table showing aggregate spending across categories: Capital Expenditures (\$1,000), Other Cash Activities (\$500), Net Cash Used (\$26,000), Available Cash Prior to Spending (\$50,000), and Cash Balance Net of Cash Spending (\$24,000). A note at the bottom states: "Data by hundreds of thousands".
- Central Panel - Business Case:**
 - Customer Analysis:** Focuses on the United States, Europe, and Asia.
 - Team Reports:** Shows progress on various tasks across these regions.
- Right Panel - Customer Analysis:** Features three choropleth maps representing customer data for the United States (purple), Europe (teal), and Asia (yellow).
- Bottom Right - Regional Summaries:**
 - United States:** Automobile units demanded: 945,877.50, growth rate: 25%.
 - Asia:** Automobile units demanded: 945,877.50, growth rate: 25%.
 - Europe:** Automobile units demanded: 945,877.50, growth rate: 25%.
 - Mobile Phones:** Units Demanded: 3.37M, Growth Rate: 10%.
 - Mobile Phones:** Units Demanded: 3.37M, Growth Rate: 10%.

Performance Summary

| | | | |
|----------------------------|----------------------------|-------------------------------|-------------------|
| Team Grades 100% | Peer Grading 95% | Competition Rank #1 | Level 8 |
|----------------------------|----------------------------|-------------------------------|-------------------|

Ranking ▾ Team Name ▾

| | |
|---|---------------------------------|
| 1 | Berkeley Innovation (Your Team) |
| 2 | Team A |
| 3 | Team C |
| 4 | Team E |
| 5 | Team F |
| 6 | Team D |

Grading Notes

Legend: Green = Good, Orange = Average, Red = Poor, Grey = Not Applicable

Team grades are based on peer grading and competition rank.

Peer grading is based on the average grade given by other users in your network.

Competition rank is based on the user's performance relative to other users in the competition.

Level is based on the user's experience level.

Feedback from the team:

Joe Vanderbilt CEO

For this year, you're the CEO. Your role is to work with your management team to develop and execute a strategy that will help your business achieve its goals.

My Profile

TEAM BERKELEY INNOVATION

Message Updates

9 days 5 hours 11 mins

Year 2

Joe Vanderbilt CEO

For this year, you're the CEO. Your role is to work with your management team to develop and execute a strategy that will help your business achieve its goals.

My Team

Kevin P. Product Management

Insara C. Product Marketing

Bhush B. Operations

Victoria W. Finance

Performance Summary

| | | | |
|----------------------------|----------------------------|-------------------------------|-------------------|
| Team Grades 100% | Peer Grading 95% | Competition Rank #1 | Level 8 |
|----------------------------|----------------------------|-------------------------------|-------------------|

Account Settings

Username: JoeVanderbilt1 Edit

Email: JoeVanderbilt1@gmail.com Edit

Password: Reset

Reflection

This was probably my favorite group project to date — our team had a great dynamic, and we complimented each of our skillsets really well. We also had an amazing client, who was open to all of our insights, and trusted our abilities.

Implementation of Market Games into Cal's Introduction to Business course (UGBA 10) is expected for the Spring 2019 semester (a class of over 500 students!).

Updates coming soon!



Final deliverable presentation. Look how cute we are~