CASE STUDY: IBM WATSON ENLIGHT V1.0

The Low-Down

IBM Watson Enlight empowers teachers to better plan for their in-class lessons with key insights about their students' knowledge gaps and overall class performance.

It enables teachers to share important information about students with parents, fellow teachers, or other individuals in the student's network of influence.

The Problem

- Teachers don't have enough time and frequently work evenings and weekends
- Some teachers see upwards of 150 faces each day
- Teachers want to be able to personalize learning for each student, but can't
- Teachers spend lots of time trying to find quality content
- Information about students is housed in several different applications; can't be used to find meaningful patterns

The Solution

- Aggregate all that student data in one place
- Surface meaningful patterns and trends across different data sources
- Create a shared repository for teachers to add insights and updates about a student
- Bring Watson AI capabilities to all of a district's content

The Result

- 15 client districts
- 14,000 teachers influenced
- 202,000 students influenced

TO THE WORK ⬇

THE LIFE OF A TEACHER

Questions & Assumptions

My team and I knew very little about what it was like to walk in a teacher's shoes, so we needed to do a lot of research to understand what they really needed from a personalized learning tool.

We started out by determining what all our current Questions and Assumptions were. What do we assume we know about teachers? What do we need to find out more about?
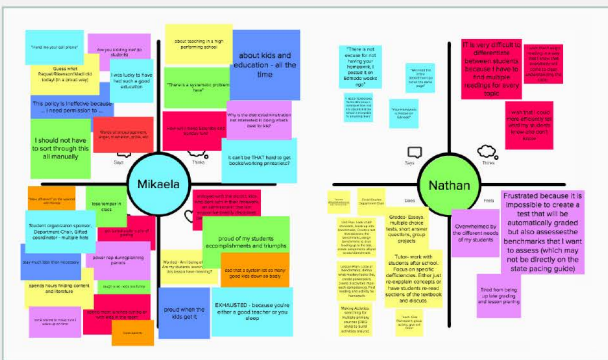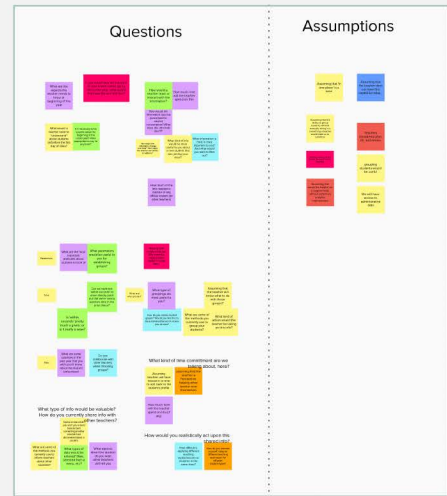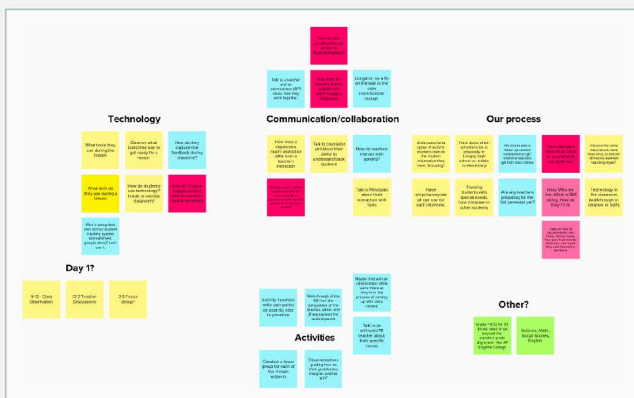

Teacher Interviews

We also tracked down some former teachers within IBM that we could interview without worrying about NDA requirements. We did an exercise with each of them remotely on Mural where each of them would sticky note aspects of their lives as teachers, prompted by the following: "As a teacher I would say ___; think ___; do ___; feel ___".

Synthesize Findings

We pulled the feedback and questions/assumptions together to verify a few immediate pain points, and derived some survey questions to support them.

Finding Teachers

We desperately needed teachers to be able to share our survey with, and as we hadn't made any contacts with local Austin districts yet, we turned to the broader IBM Design Studio for any family, friends, and acquaintances that would be willing to take the survey.

Survey Results

The survey results came back, and gave us a lot of information about how teachers currently use technology in the classroom and their pain points with that technology. Not surprisingly, we got 2 pages worth of problems they have with their current technology resources.

WHAT INFORMATION IS MOST IMPORTANT TO YOU?

WHAT TOOLS HAVE YOU USED IN THE CLASSROOM?

WHAT DO YOU DISLIKE ABOUT THE TOOLS YOU HAVE USED IN THE CLASSROOM?

What We Learned

We rolled up all the information we collected from the surveys and interviews into some high-level key aspects that we would apply for our persona teacher:

GOALS

Create an environment in which every student thrives

Foster student growth, creativity, and excitement for learning

Ensure that all students have the support they need to succeed

Build relationships with students and parents

TASKS

Planning content and finding the best tools to help her students understand

Teaching content so students will understand concepts and be prepared for the next year

Contacting parents and communicating information about the child's performance

Documenting everything on the many different systems to keep track of information

Learning how to be a better educator through professional development

Principal
Assistant Principal
Curriculum Specialist
Students
Parents
Teachers

TIME FOR A DESIGN THINKING WORKSHOP!

DEFINING OUR PERSONA

Design Thinking Workshop

Based on all the things we had learned, we were able to start the Design Thinking process. Our team came together as a group for a Design Thinking workshop to determine the right direction for our personalized learning product.

We had representation from executive stakeholders, Design, Development, Offering Management, and former teachers. I represented Design and helped facilitate this workshop based on my past experience with Design Thinking process and exercises.

Meet Jamie

We started by establishing a persona, Jamie Weinberg, and a few key qualities about her.

Jamie
Middle School Teacher

Jamie is a 7th grade math teacher at a medium-sized public school in San Francisco. Jamie is married and has a 4-year old son. She loves her students, but struggles to balance her dedication to teaching with finding time for her family. She has a wide range of students each year and works to ensure all their needs are met. She wishes she knew more about her students going into the new year and had a better way to keep track of their progress throughout the year. She thrives on helping her students succeed.

FRUSTRATIONS

She doesn't have enough time to understand and meet her students' individual needs

There aren't enough hours in the day and she often has to bring work home

Students don't always get help early enough and then struggle more later

Information is everywhere and she has to spend a lot of time searching around for content

Knowing what and how to communicate with parents

Empathy Mapping

We then put together our own empathy map of Jamie: what Jamie says, thinks, does, and feels, and then clustering those thoughts into topics.

HELPING OUT JAMIE

As-Is Scenario

Based on these topics, we decided to focus on diving into the teacher's planning period.

We broke this planning process down into broad steps, and broke Jamie's experience down even further to what she does, thinks, and feels during each of these steps.

As-Is Scenario

We clustered the items by similarity and, after some group discussion, decided on 3 key problem area themes we'd like our product to solve:

1. Student individuality from the first day of school
2. Sharing a student's performance and helpful information with others who interact with them
3. Knowing a more targeted way to construct lessons and where to focus based on the latest information about a student
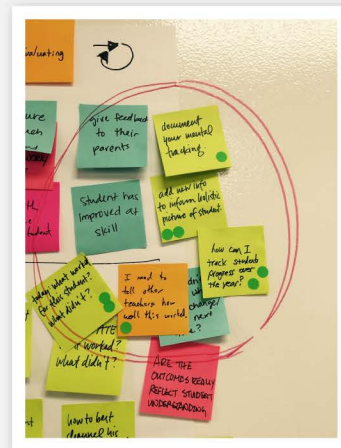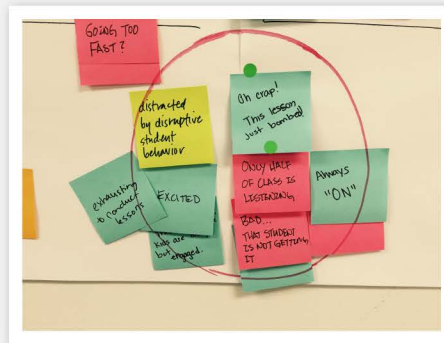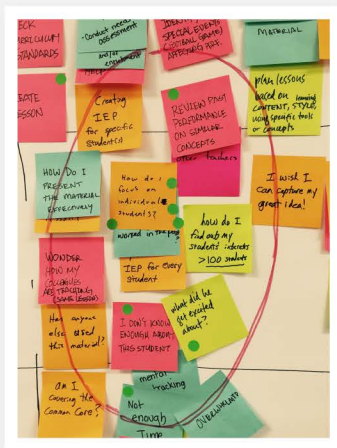
CONCEPT IDEATION

Big Ideas & Storyboarding

We then began approaching each theme with blue sky, metaphorical solution concepts to connect those broad themes to more tangible items, tools, and actions.

We clustered and found areas of similar ideas and interpretations of the problem.

Importance vs. Feasibility

We took another pass on these idea clusters to define the needs they solve, some real-life software actions that could help address these needs, and what technical capabilities could support those actions.

We mapped the ideas to an "Importance vs. Feasibility" matrix so we could start to be more realistic about what could be accomplished.

ESTABLISH "HILLS"

DRAFTING & FINALIZING

With all this knowledge, we were able to put together the "Hills" or goals that all parties (execs, OM, Development, Design) agreed we were going to drive to.
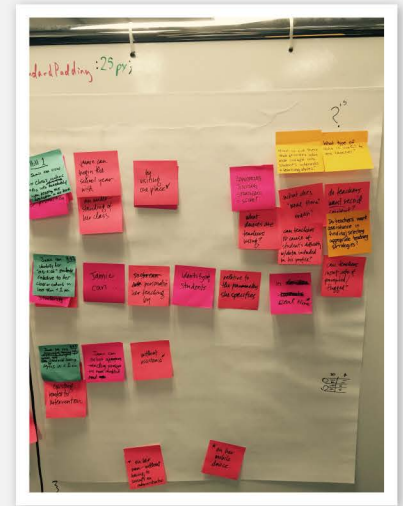
Hill 1
Who + **What** + **Wow!**

Jamie can begin the school year with an understanding of her class by visiting one place.

- Jamie doesn't have the time or resources to truly get to know each of her students before they step into her classroom.
- She needs holistic insight into her students' educational, behavioral, and personal backgrounds.

Hill 2
Who + **What** + **Wow!**

Jamie can prioritize her time throughout the year from on-demand, actionable insights about her students.

- Jamie needs an "up to the minute", thorough understanding of her students and classes to make decisions about classroom activities.
- She would benefit from analytical insights that meaningful connections across many different academic and extracurricular characteristics.

Hill 3
Who + **What** + **Wow!**

Jamie can craft targeted learning experiences on the fly from content in which she has confidence.

- Jamie needs curated content that she can easily access to build a more engaging classroom experience.
- Jamie can trust that she is selecting high quality content.
- The content she chooses will be relevant to her students' specific needs.

WHO + WHAT + WOW

With all this knowledge, we were able to put together the "Hills" or goals that all parties (execs, OM, Development, Design) agreed we were going to drive to.

They are defined by the following elements: "Who" we're designing for; "What" we're helping her to do; and a "Wow" factor that would ensure we're differentiating our product from others in the market.

TEACHER VALIDATION

After completing the workshop and drafting our Hills, we went back to our teachers for input on our goals and if they were realistic.

After some edits and final polishing, we had our team-wide goals for the first release of our new product!

Hills

1. Jamie can begin the school year with an understanding of her class by visiting one place.

2. Jamie can prioritize her time throughout the year from on-demand, actionable insights about her students.

3. Jamie can craft targeted learning experiences on the fly from content in which she has confidence.

PRODUCT ROADMAPPING

Getting Started

Back at the Design Studio, it was time to execute. I played back the results to the design team and we did a very in-depth ideation exercise for each Hill.

Then I worked directly with Offering Management to break down those ideas into a rough phased roadmap.


Cupcake, Birthday Cake, Wedding Cake

Following our "Cupcake, Birthday Cake, Wedding Cake" (a metaphor for a staged product growth exercise), we refined those ideas into what we could feasibly try to contain in a first release ("Cupcake") and subsequent "Birthday" and "Wedding Cake" releases in the future.

This activity is important to ensure that what we did in our first release was conducive to a logical growth path into the future rather than just a near-sighted set of features.

Getting Started

Offering Management and I dug deeper into our "Cupcake" to break each concept idea into the specific design and development stories that would support and complete each concept.

We worked with Development to put rough sizings on each story and break them into design and development sprints.
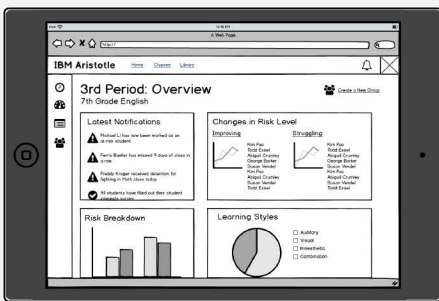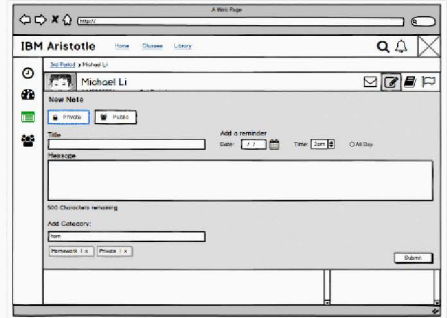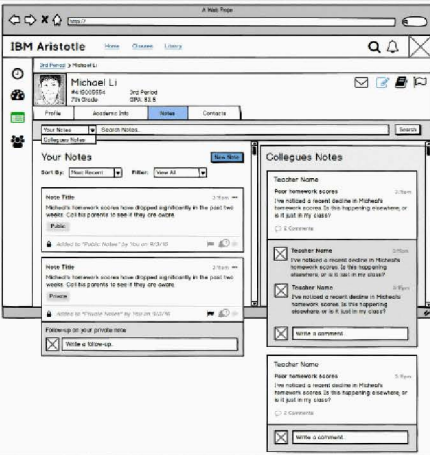
READY TO GET MY DESIGNERS DESIGNING!
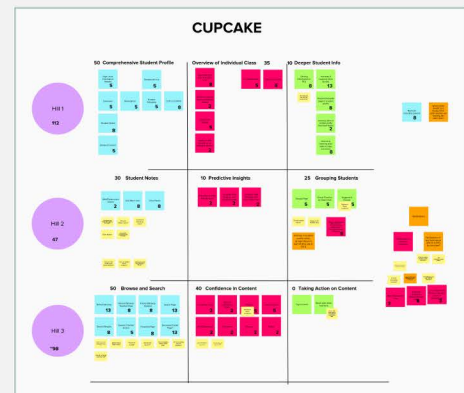
LOW-FIDELITY SKETCHES
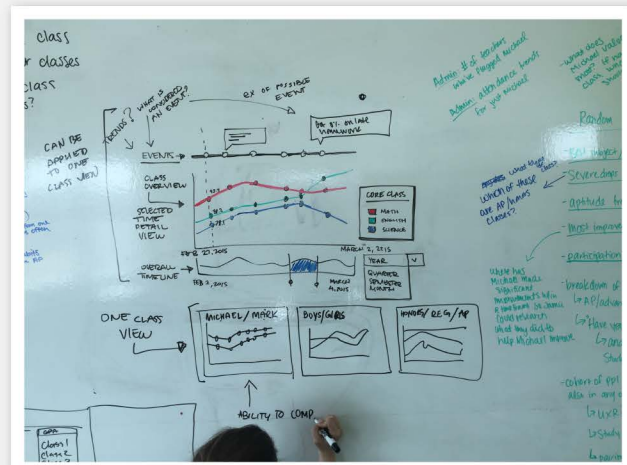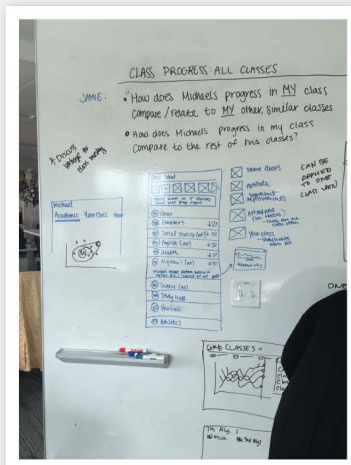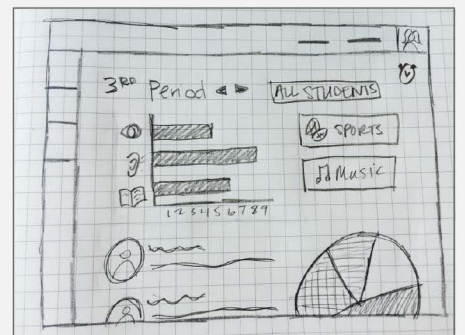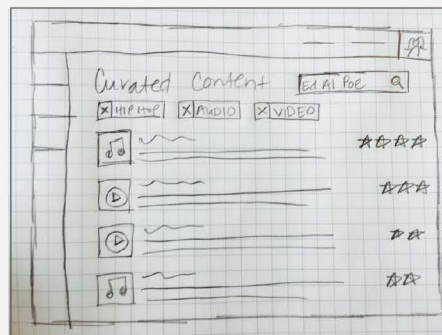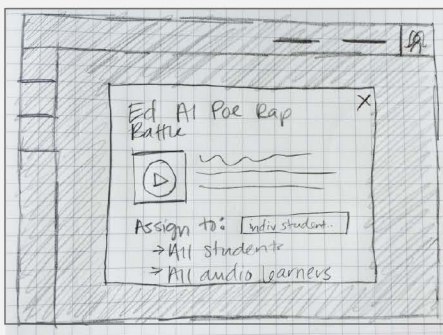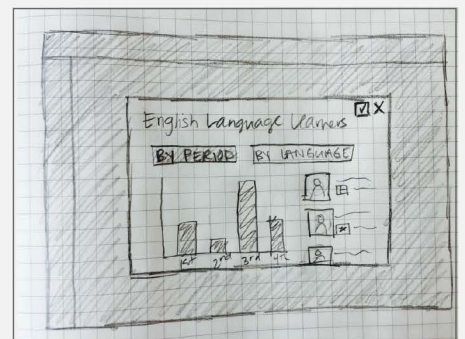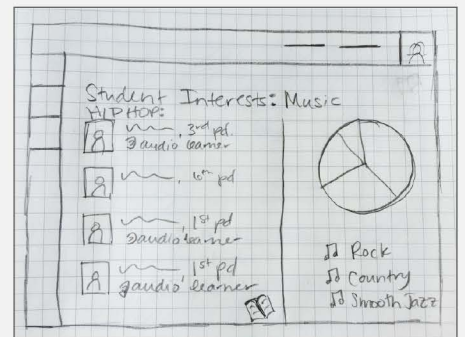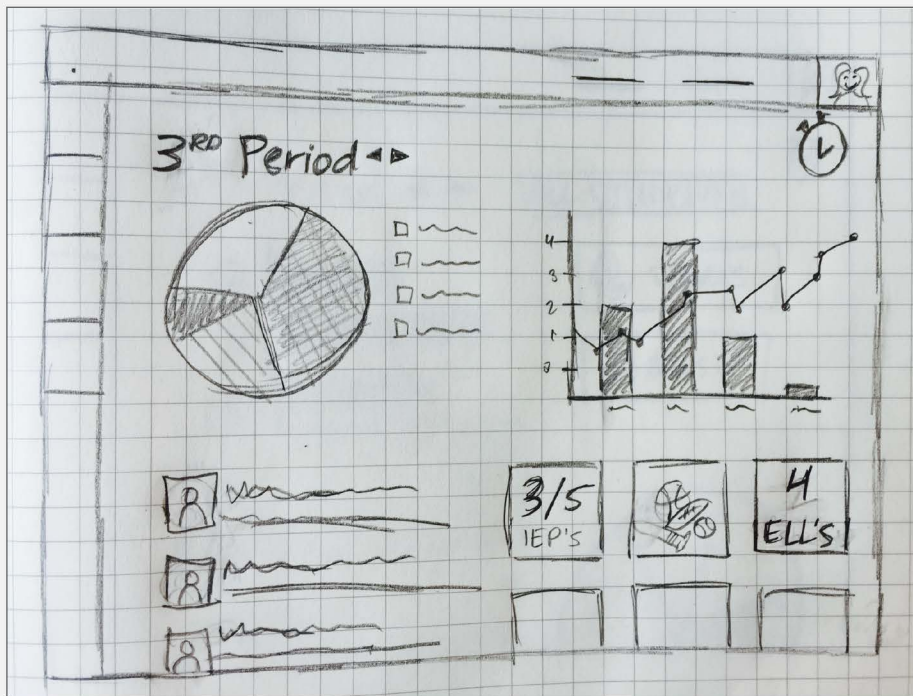
MID-FIDELITY WIRES

Student Notes View

Action Items

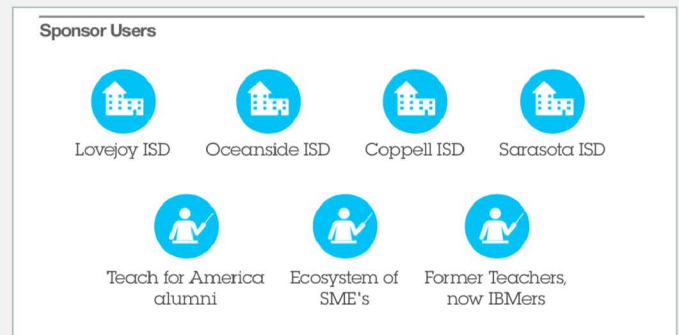|		
Inline option	User said it was easier to identify "New Note" CTA	Explore categorizing; maybe check boxes?
Reminder/Flagging	Align with Trisha on the search functionality	Add icons and teacher pictures

"Create a Note" Options
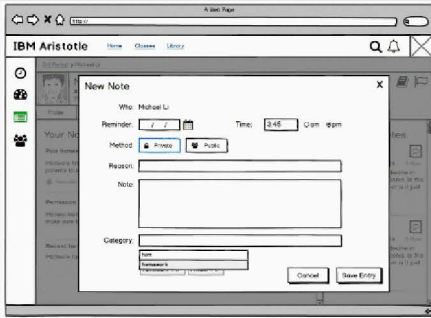
GETTING FEEDBACK

Sponsor Districts

We gathered some specific districts that were interested in helping to give input and shape how our product grew.

We tapped these districts a lot for teachers to review our wireframes so we could fix some key problems prior to development.

Sponsor Users

Lovejoy ISD   Oceanside ISD   Coppell ISD   Sarasota ISD

Teach for America alumni   Ecosystem of SME's   Former Teachers, now IBMers

Prototyping

We used as many opportunities as we could to put prototypes of our ideas in front of teachers.

The more realistic we could make the experience of "using" the new feature, the better feedback we would get around what a teacher would do with it and what interactions were not intuitive enough.
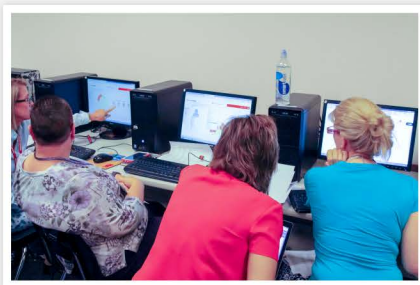
Synthesizing Feedback

We brought all the feedback for each piece together and analyzed the common themes we were hearing. From there, we could create action items and continue to iterate on what wasn't quite working well.

Feedback

Attendance Widget

- It is exciting to be able to pull in attendance data and form insights about students.
- Districts have always struggled to wrangle attendance data. They have to do a lot of cross-referencing and manual labor. They were excited to have actionable insights that are easy to find in one place.

Feedback

Student & Class Forecasts

- This is a powerful capability that provides insights into class and student performance.
- They were excited to see trends across student and class information. They love the ability to compare unit and year-on-year data to better understand students and teaching.

FINAL DESIGN COMPS

Class Dashboard

Student Analytics

Watson Content Search

NOW WE'RE READY TO BUILD!