



RAIKES SCHOOL
DESIGN STUDIO



TODAY'S INNOVATORS BUILDING TOMORROW'S SOLUTIONS

2025-2026 >>> Design Studio Annual Showcase



> What is Design Studio?

In the heart of the Jeffrey S. Raikes School of Computer Science and Management lies Design Studio, the capstone program that brings leading industry sponsors, innovative startups, and researchers together with the best and brightest students to dream and build high-tech solutions for today's problems.

> Our Approach

As an experiential learning program, Design Studio engages third- and fourth-year students to solve real-world, technical problems by partnering with companies, startups, and organizations. A cornerstone of the Raikes School curriculum for more than 20 years, Design Studio is key to helping students see the impact of their work as they use their skills to deliver value to sponsors through hands-on projects.

Find us at raikes.unl.edu/design-studio to partner with us on a project in Design Studio!

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**This report showcases the
past year in Design Studio**

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WELCOME to SHOWCASE



Rob Nickolaus
Director of
Design Studio

A handwritten signature in black ink that reads "Rob Nickolaus".

CELEBRATING INNOVATION AND RESILIENCY

What an amazing year! Our Design Studio students embody the spirit of innovation that defines this program. "Today's innovators building tomorrow's solutions," captures not only the caliber of their work but also the mindset with which they approach real world challenges. Whether collaborating with partners, launching ventures, or performing cutting edge research, our students bring the necessary curiosity, creativity, and rigor.

A defining characteristic of this year's class has been its adaptability. With technology changing rapidly and AI reshaping entire industries, our students have embraced uncertainty as a catalyst for growth. They have learned to navigate ambiguity within their projects, adjust strategies, and iterate quickly. That same resilience shows in their career pursuits as the nature of tech roles evolve. Students demonstrate an ability to translate foundational skills into opportunities, proving that adaptability is as essential as technical expertise.

LEARNING BEYOND THE CLASSROOM

Teams have grown beyond the development of software or a business. As students immersed themselves in the domains of their project, they built cultures rooted in trust and shared purpose. Leaving the classroom and engaging directly with stakeholders has led to a collective understanding of user needs and market environments. This strengthened the quality of their solutions while also forging cohesive teams that communicate openly, support one another, and take ownership.

Startup Studio provides a powerful platform for our entrepreneurs to explore and validate their own ideas. Through workshops, mentorship, and hands on experience establishing real ventures, these students have a first-hand seat to early stage innovation, from concept to customer discovery to viable product to go-to-market plans.

IT TAKES A VILLAGE AND MORE

As we close this chapter and celebrate the achievements of the year, I want to extend heartfelt gratitude to the sponsors, mentors, advisors, faculty, staff, and partners who make this learning opportunity possible. Your guidance and support empower students to stretch their abilities, challenge assumptions, and develop confidence as future leaders. Thank you for investing in these exceptional young innovators. Together, we are not just supporting their education, we are helping them build tomorrow's solutions today.

Year in Review



108

Students



14

Sponsors



10

Faculty
and Staff



21

Coaches



12+

Hours
Per Week



7

Dedicated
Team Rooms



5-6

Students
Per Team



4

Startup
Teams



3

Research
Projects

Design Studio

Challenges Students

By Building Skills In:

1. Teamwork
2. Leadership
3. Communication
4. Project Management
5. Business Value Quantification
6. Emerging Technology Research

Together We Solve Big Problems

> > >

By partnering with the region's leading organizations, our students have the opportunity to tackle current problems and opportunities. Using knowledge from their academic classes, internships, and their research experiences, students build real-world solutions while gaining invaluable experience. Our sponsors, in turn, see innovative viewpoints come to life by collaborating with our students as they tackle these business challenges together.



Buckle | Page 10

Eliminate the friction between browsing and buying by letting every shopper see themselves in Buckle products before ever stepping into a fitting room.



Buildertrend | Page 11

Transform construction document management by automatically classifying and extracting data from every upload, so builders spend less time filing and more time building.



Conagra Brands | Page 12

Empower Conagra Brand's internal users with instant, AI-powered answers to common vendor questions, freeing the Data Management Organization team to focus on more complex work.



DMSi | Page 13

Eliminate the tedious, error-prone manual work of building materials classification by using machine learning to automatically predict item attributes during the DMSi import process, saving analysts hours of rework.



Farm Credit Services of America | Page 14

Ensure no FCSAmerica customer misses a critical land auction opportunity by replacing fragmented, word-of-mouth discovery with a centralized, real-time notification system.



HDR | Page 15

Standardize infrastructure asset data collection across every HDR project, so engineers and clients always have consistent, reliable information to support smarter long-term decisions.



Hudl | Page 16

Put instant, data-driven insight in every coach's hands by making game film and performance data accessible through simple, conversational questions.



Hudl | Page 17

Modernize the coaching experience by delivering accurate, strategic insights through a scalable conversational AI system that understands what coaches are really asking.



Kana Systems | Page 18

Accelerate Department of War proposal evaluation by transforming unstructured technical documents into a connected, searchable knowledge graph that surfaces relevant insights in seconds.



Kiewit | Page 19

Protect workers at heights by replacing error-prone paper permits with a digital system that automates safety calculations and validates real-world conditions on-site.



Kiewit | Page 20

Strengthen fall protection compliance by giving field supervisors a responsive, automated permitting tool they can trust on any device, anywhere on the job site.



Mutual of Omaha | Page 21

Give Mutual of Omaha's Treasury Department full, auditable control over banking system access through a flexible platform built to grow with their compliance needs.



Nelnet | Page 22

Give every student a voice and every administrator the data they need to foster healthier, more supportive school environments before well-being issues escalate.



Olsson | Page 23

Empower municipalities to make confident, data-driven infrastructure investment decisions by turning complex geospatial data into clear, actionable visualizations and reports.



Signature Performance | Page 24

Reduce the administrative burden of healthcare claims processing by deploying intelligent agents that navigate provider portals automatically, allowing associates to focus on higher-value work.



Signature Performance | Page 25

Free healthcare associates from repetitive portal navigation by putting teams of autonomous AI agents to work retrieving critical claims data on their behalf.



Tenaska | Page 26

Empower Tenaska's credit analysts to make faster, more confident decisions by delivering instant, plain-language insights from complex proposal data — wherever analysts are.

STARTUP STUDIO

From the classroom to reality: four ambitious student startups came to life this year, powered by Invest Nebraska and their matching partners who recognized these ventures' potential. In Startup Studio, aspiring entrepreneurs don't just dream — they build. These students earn credit toward graduation while launching their businesses, and they gain invaluable real-world startup experience. This hands-on approach to entrepreneurship does more than create new companies, it sparks a culture of innovation that inspires students to transform bold ideas into groundbreaking solutions.



Creevo | Page 27

Democratize game development by empowering anyone with an idea — regardless of technical skill — to build and iterate on real games through natural language.



DineU | Page 28

Reimagine campus dining by connecting students through a reliable, meal-plan-friendly delivery platform that creates flexible earning opportunities and makes campus food access easy.



FindU | Page 29

Simplify the college search experience by giving every high school student a personalized, easy-to-navigate platform and giving counselors the visibility they need to guide students effectively.



Reach | Page 30

Level the playing field for standardized test preparation by giving every high school student — regardless of resources — an engaging, personalized ACT prep experience.

RESEARCH STUDIO

Research Studio offers students a chance to apply their skills to a problem in a research setting rather than in an industry setting. Research Studio is project based under the guidance of University of Nebraska faculty mentors. Three students explored a research question over two semesters.



Subgroup Differences in Asian American Higher Education

Caiya Khammaly | Page 31

Research question: What disparities in higher education attainment and enrollment rates between Southeast and East Asian subgroups are masked by the aggregation of Asian American data?



AI Quiz Question Generation

Deva Pushkaran | Page 32

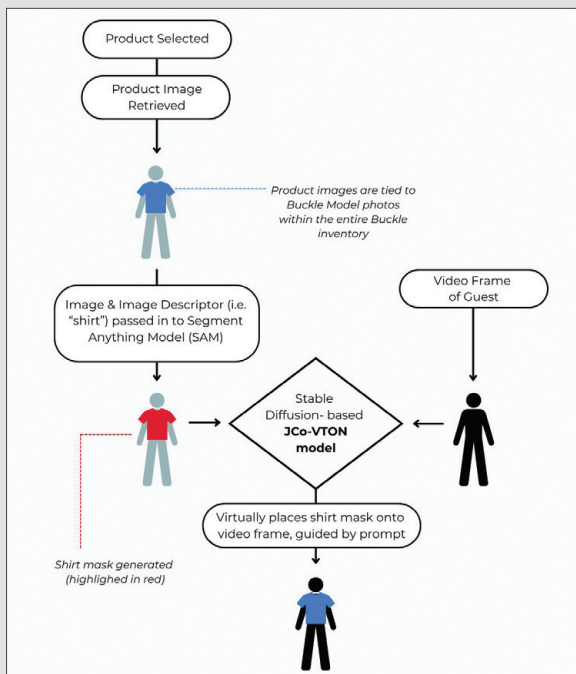
Research question: Can an AI system help instructors reduce the time required to create quizzes while still producing meaningful assessments?



No Doubt About Drought: Predicting Midwest Drought Conditions using Machine Learning

Lily Rippeteau | Page 33

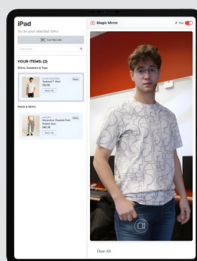
Research question: What is the role of the land surface in flash drought development in the contiguous United States?



Our application uses both an AI model to generate images and a website to interact with that model.



Once a picture has been taken, the model will generate the virtual try-on image and show that to the guest.



Guests have the option to scan an item barcode and select the products they wish to see on.

Buckle

Buckle Virtual Try-On

Buckle, Inc. operates more than 440 retail stores across 42 states, renowned as a denim destination and a specialty retailer committed to delivering exceptional service. Despite this commitment, the step from browsing to physically trying on clothes remained a persistent point of friction for guests. The Design Studio team set out to solve this by building the Buckle Virtual Try-On. This progressive web application allows guests to see themselves wearing Buckle products without ever stepping into a fitting room.

The challenge was twofold: developing a computer vision system capable of overlaying clothing onto a person's body and designing an experience intuitive enough for any guest to use independently on a store display. The team researched state-of-the-art AI models and determined that a

two-mode approach best balanced fidelity and performance. Much of early development focused on evaluating AI model approaches for virtual try-on. The team developed a static mode in which a cloud-hosted Stable Diffusion model processed a guest's photo to generate a high-fidelity try-on image.

To interface with the model, the team built a front end using Next.js, React, and Tailwind CSS, featuring a live webcam feed, product sidebar, and barcode scanning functionality. Two key placement strategies were identified: an entrance kiosk to draw guests in and iPads for teammates assisting guests during shopping. The Buckle Virtual Try-On creates a low friction, memorable in-store destination designed to delight guests, increase fitting room traffic, and strengthen brand loyalty.

TEAM >

Andrew Hall
Sophia Harding
Daniel Kasparek

Maitreyi Purandare
Nathan Van Drie



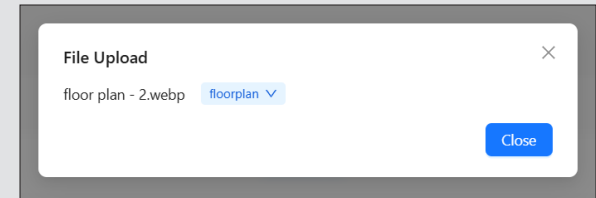
Document Classification – Unlocking Data Hidden Inside Documents

Buildertrend is responsible for backing half of new home builds in the U.S., consolidating job management into one easy to use platform. A successful job requires organization and quick access to crucial information. To continue to power builders around the country, Buildertrend was looking for a way to classify documents as they are uploaded to the platform. Finding and managing documents has historically been time-consuming, error-prone, and frustrating, leading to lost hours, misfiled files, and duplicated work.

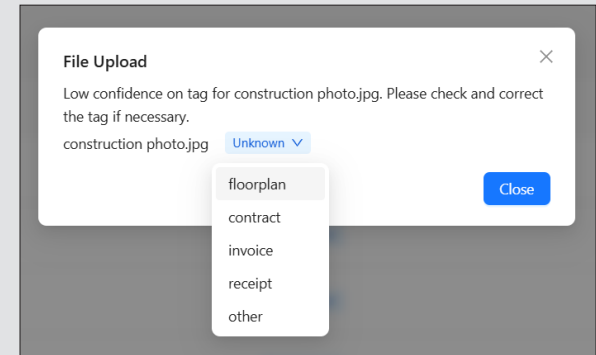
To combat these struggles, the Design Studio team envisioned a way to automatically classify documents, streamlining document management in Buildertrend to save users' time, reduce confusion, and keep projects organized. The team's solution was to use Google Cloud's Document AI to automatically tag documents such as floorplans,

contracts, invoices, and receipts as they are uploaded to Buildertrend. The model is not only able to detect the document type but also pulls text data from each entry. Once these documents were tagged, the team utilized this information as they implemented additional workflows. With searching and filtering functionality, builders can search through their documents based on tags and context from the text data. The team also implemented description autofill, which used the data pulled by Document AI to provide a short snippet of information to easily understand the context of the document.

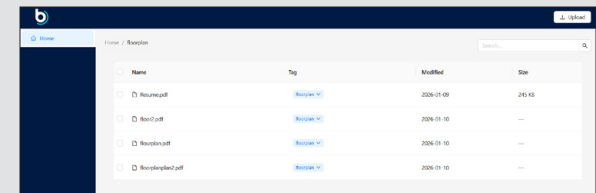
By automatically classifying and extracting data from uploaded documents, the team's solution accelerates document retrieval and minimizes errors. This saves builders valuable time, encourages project organization, enhances search accuracy, and improves efficiency.



File upload: A tag is suggested and able to be changed by the user.



Low confidence: Document is tagged as unknown if it does not match provided categories.

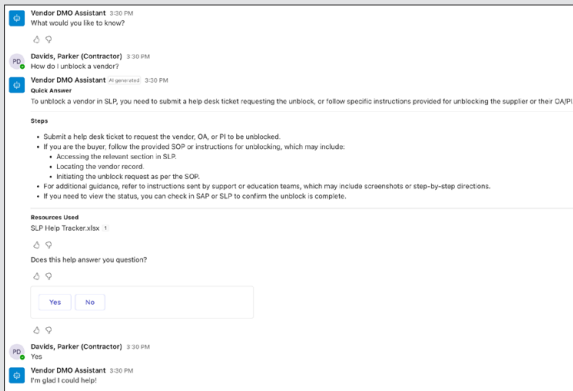


Floorplan folder page: A folder sorted by tag type containing documents with floorplan tag.

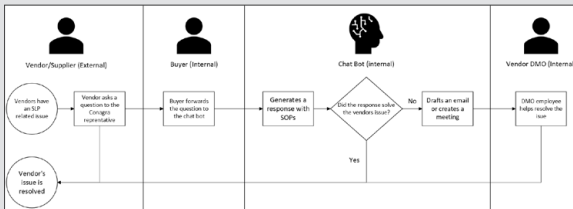
TEAM >

Elena Belashchenko
Luciano Carvalho
Raegan Scheet

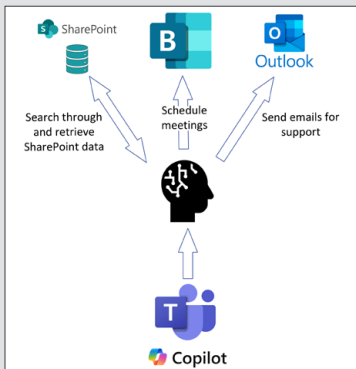
Blaine Traudt
Tia Ybarra



The AI agent, interacting within Microsoft Teams, provides users with quick, guided responses to common vendor workflow questions.



A visual model enables internal employees to speak to the agent before escalating the issue to the DMO.



An overview of the AI agent architecture, highlighting Copilot integration, email drafting, meeting scheduling, and SharePoint document retrieval.



Vendor Generative Assistant

Conagra Brands is a leading North American food company whose Data Management Organization (DMO) supports both external suppliers and internal buyers by resolving vendor workflow related questions and tasks. Currently, the primary method of communication with the DMO is through a centralized email inbox, where team members respond to inquiries on a daily basis.

A key challenge in this process is the high volume of repetitive questions submitted by buyers and suppliers. These recurring inquiries require significant manual effort from the DMO team and often involve multiple handoffs between suppliers, internal stakeholders, and DMO staff. As a result, response times are extended, workflows are delayed, and DMO resources are diverted from more complex or high-impact issues.

To address these challenges, the Design Studio team developed an AI-powered chat assistant that internal users can engage with before escalating inquiries to the DMO. The assistant provides quick, accurate responses to common questions by referencing SharePoint documentation, training materials, and vendor data. If a question can't be resolved, the assistant guides users through an "exit path," offering options to draft and send emails or schedule a meeting with the DMO based on the conversation context. This solution is expected to reduce the volume of repetitive inquiries and save DMO team members an estimated 10–15 hours per week. By improving efficiency and response times, the assistant enables the DMO to focus on higher-value work while enhancing the overall experience for internal users and suppliers.

TEAM >

Parker Davids
Mohannad Ibrahim
Angela Le

Ty Lovgren
Mary Kate Nussrallah



Bill of Materials Classification and Assignment Tool (BOM CAT)

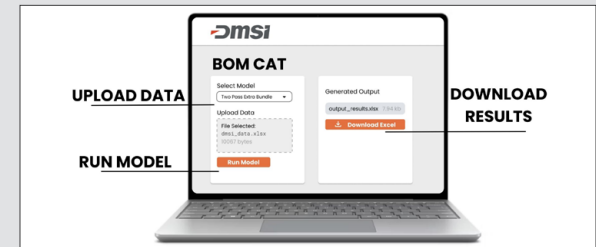
DMSi (Distribution Management Systems Inc.) develops inventory and order management software for building materials suppliers, including lumber yards, distributors, and wholesalers. DMSi helps customers manage complex product configurations, purchasing, and inventory operations. Building materials suppliers rely on detailed Bills of Materials (BOMs) to configure and sell complex products, such as doors.

DMSi's implementation analysts face the challenge of importing a new door into a customer's BOM, a manual, frustratingly repetitive, and error-prone process. For each new item, analysts must interpret the supplier's item code and assign dozens of attributes - like size, material, finish, and style - before placing the item into the correct BOM structure. Because doors can have thousands of possible attribute combinations, a single import could take hours, and a human mistake

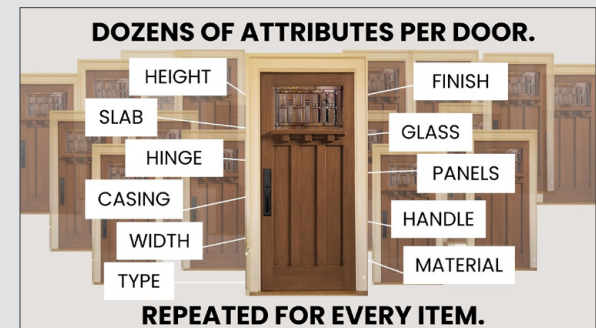
could trigger costly rework downstream.

The Bill of Materials Classification and Assignment Tool (BOM CAT) uses machine learning to predict item labels and attributes. The Design Studio team developed a model that analyzes historical item data to learn patterns across existing configurations. Using only the supplier's item code, product description, and category, which are available during the import process, BOM CAT predicts the appropriate values and attributes with high predictive performance. The team created a web-based interface that allows a user to upload supplier data, run the model, and download formatted predictions.

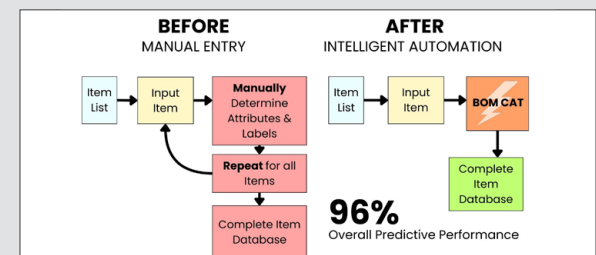
BOM CAT reduces manual effort while improving accuracy and consistency, supporting DMSi's mission to provide excellent customer service through efficient, reliable software solutions.



Users upload supplier item data, run BOM CAT, and download formatted attribute and label predictions ready for system import.



Each door has dozens of attributes — height, material, finish, and more. Manually importing each door is a complex, inconsistent, and error-prone process.



BOM CAT replaces repetitive manual classification with machine learning-driven prediction, achieving a 96% overall predictive performance.

TEAM >

Will Glover
Grace Hecke
Jack LaVergne

Spencer Lewis
Harley Paprocki

Search by state, county, or name

Save Filters Reset Filters

State County Size State Status Host

All States All Counties All Sizes All Dates All Statuses All Hosts

Active Auctions

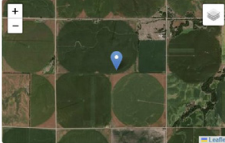
100 auctions found matching your criteria - Click any row to expand

Name	County	State	Acres	Date	Status	Host	Actions
SILOX, NE - 170 acres	Silcox	NE	170	03/17/2026	Upcoming	Greene LLC	...
GARDEN, NE - 250 a...	Garden	NE	250	03/16/2026	Upcoming	Big Red Auctions	...
HOLT, NE - 350 ACRES	Holt	NE	350	03/15/2026	Upcoming	Luk's Land	...
SEWARD, NE - 400 a...	Seward	NE	400	03/14/2026	Upcoming	Raltes Ranch Co.	...
JOHNSON, NE - 300 ...	Johnson	NE	300	03/13/2026	Upcoming	Ty's Auctions	...

Showing 1 - 5 of 105 auctions. Rows per page: 5

Auction Table view allows users to filter, sort, and search applicable information about past and upcoming auctions.

Auction Details



SEWARD, NE - 400 acres Upcoming

March 14, 2026 3:00 PM

Hosted By: Raltes Ranch Co.
Auction Link

Land Information:

Gross Acres: 400 +/-
Soil Rating: B0.4 Rating Type: CSR2

400 Acre Tract

Gross Acres: 400 +/-
Soil Rating: B0.4 Rating Type: CSR2

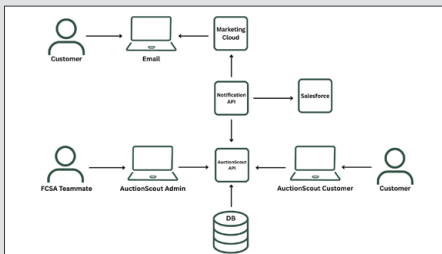
Tillable Acres: 368.48

Legal Description: 11-11N-11W

Latitude: 40.73224 Longitude: 97.27729

Left: Auction Details view displays key auction information and an intuitive map view of the tracts being sold.

Below: High level system architecture showing how customers, teammates, and services interact through APIs, email, and databases across the AuctionScout platform.



AuctionScout

Farm Credit Services of America provides credit and financial services to farmers, ranchers, and agribusiness across the Midwest. As a customer-owned financial cooperative, FCSAmerica is governed by the very producers it serves, ensuring that its mission, financial strength, and long-term strategy remain firmly aligned with supporting agriculture and delivering dependable value to its members.

One role of loan officers is to collaborate with customers to identify relevant auction opportunities, with the goal of supporting their financing needs through FCSAmerica. Traditionally, information about upcoming auctions is shared informally through word of mouth or distributed flyers. It is not uncommon to see auction details scattered across local bulletin boards, truck stops, or passed along through personal networks, making it difficult to track and organize key information.

Our solution, AuctionScout, provides an intuitive, structured system for capturing and managing auction data. Employees can quickly add, update, and organize auction details and associated tracts, ensuring accurate, easy-to-share information. Through a Salesforce integration, loan officers can instantly notify customers about auctions that matter most to them—directly within the systems they already use. Customers gain faster access to relevant opportunities, while loan officers benefit from more consistent data and streamlined communication. Ultimately, the tool strengthens the connection between FCSAmerica's staff and the producers they serve, helping ensure that customers never miss an opportunity that could impact their operation.

TEAM > Bennett Anderson
Luke Doughty
Ty Mandachit

Nathan Ray
Bethany Thimjon



AsseTrac: Asset Inventory Evaluation App

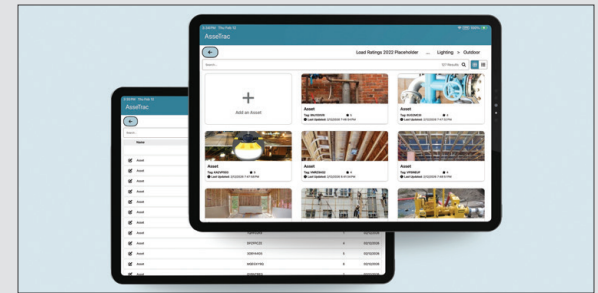
HDR is a professional services firm specializing in architecture, engineering, environmental, and construction services. Through its Enterprise Asset Management work, HDR supports municipalities and agencies in assessing critical assets such as buildings, sidewalks, light poles, and mechanical systems. These field-based inventories provide the foundation for maintenance planning, budgeting, and long-term business decisions.

The team identified a key challenge for HDR is the lack of standardization and scalability seen in current asset inventory management tools, such as Survey123 and Microsoft Excel. These data collection approaches led to inconsistent data formats, uneven data quality, duplicated effort, and additional rework after field collection. As a result, field staff were required to relearn processes for each project, slowing delivery and reducing overall efficiency.

To address this challenge, the team developed AsseTrac, a mobile-friendly asset inventory solution designed to standardize how asset data, images, and condition assessments are collected across projects. The solution supports consistent data capture and integrates with existing reporting systems used for analysis and planning. AsseTrac improves data quality, reduces rework, accelerates asset inventory evaluation tasks, and establishes a durable foundation for enterprise asset management, enabling more reliable insights and better-informed decision making for HDR and its clients.

TEAM > Will Adair
Clara Delzell
Carly Kendeigh

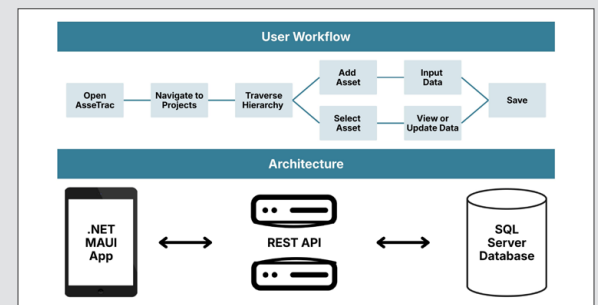
Drew Medina
Arjun Ramesh



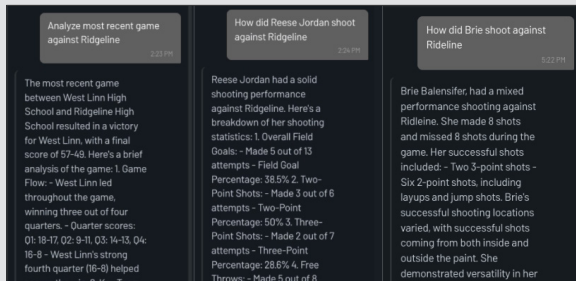
Display of asset cards and table entries representing uploaded data, including asset names, tags, descriptions, and images.



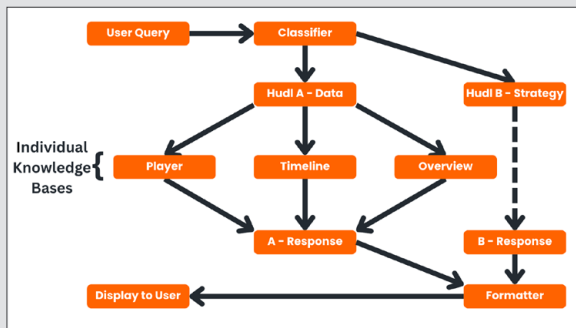
Form allowing users to view or edit asset inventory data, upload images, submit condition ratings, and report deficiencies.



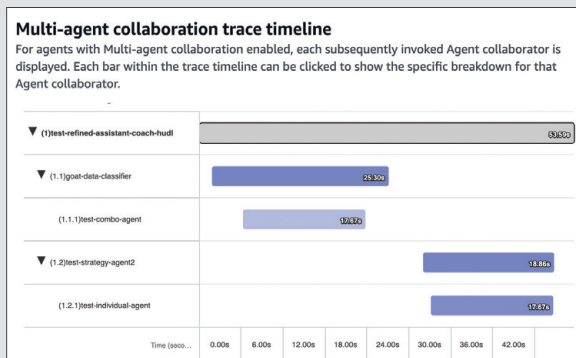
Usage workflow of AsseTrac and data flow through the app.



The AI Assistant Coach provides coaching analysis for offensive and defensive performances, along with scouting reports.



Workflow for user queries.



Multi-agent collaboration timeline.



Hudl's Ultimate Assistant Coach

Hudl supports more than 200,000 teams worldwide with video and performance analysis tools designed to help coaches and athletes improve. Despite access to powerful data and video libraries, many coaches still spend hours manually searching through full game films, stat reports, and event logs to find key moments. Under time pressure—especially during games or short practice windows—there is no simple, intuitive way to ask a direct question and instantly receive a clear, actionable answer.

The Design Studio team's challenge was to make performance analysis more accessible by integrating Generative AI into the coaching workflow. The team built an AI assistant to transform complex game-level files into structured knowledge bases focused on player statistics, full game overviews, and chronological event timelines.

Coaches interact with the assistant through a conversational interface and receive targeted outputs such as per-player performance summaries, game breakdowns, or ordered event sequences—without manually filtering data.

This solution reduces time spent searching for data and increases time spent coaching. By embedding AI-driven insights directly into the platform, Hudl can deepen product engagement, modernize the coaching experience, and position itself at the forefront of AI-powered sports technology. Next steps include full front-end integration, expanded query capabilities, and user testing to refine accuracy and usability.

TEAM >

Daniel Crow
Tyler Kerkman
Ian Kuchar

Max Sievenpiper
Aden Williams



AI Coaching Assistant

Hudl supports coaches by providing access to game film and performance data. Extracting meaningful insights from that information often requires time-consuming manual analysis. The Hudl Ballers project addressed this challenge by developing an AI coaching assistant that enables coaches to ask natural-language questions and receive clear, data-driven insights related to player performance, game flow, and scouting strategy.

Building on earlier research and system design, the Design Studio team's solution focused on refining a retrieval-augmented generation (RAG) pipeline using a multi-agent architecture. The team created specialized knowledge bases for player performance, game timelines, and overall statistical summaries. AWS Lambda functions were used to clean and segment Hudl Performance Core data so

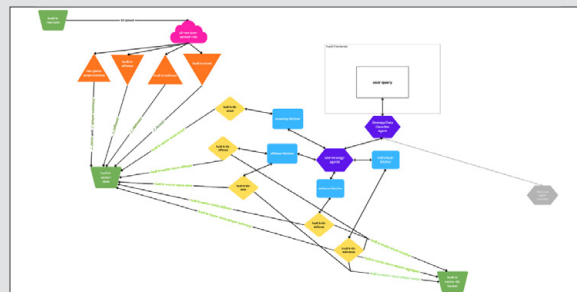
that each agent accessed only the most relevant information. A classifier agent routed user queries by intent, while a formatter agent synthesized responses into concise, coach-friendly explanations. Prompting strategies were refined to reduce hallucinations and improve response consistency.

The resulting system demonstrates the ability to answer both statistical and strategic questions, such as identifying performance trends, evaluating player usage, and generating scouting insights. This work establishes a scalable foundation for integrating conversational AI into Hudl's analytics ecosystem. Future efforts will focus on front-end integration, continued coach testing, and refining agent behavior based on real-world feedback to further enhance coaching efficiency and decision making.

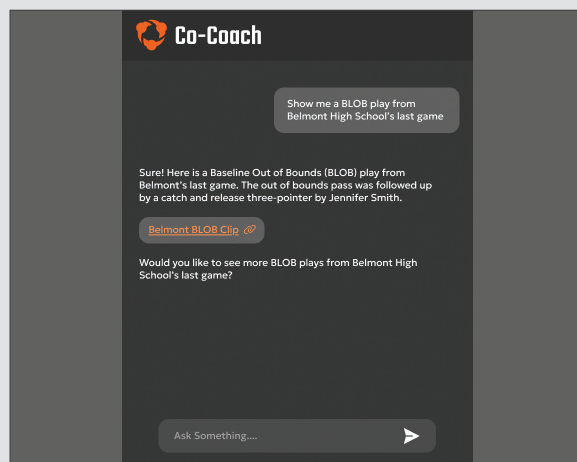
TEAM >

Shayna John
Riya Kannapareddy
Cougar Konzem

Aaron Morrissey
Ari Shelton



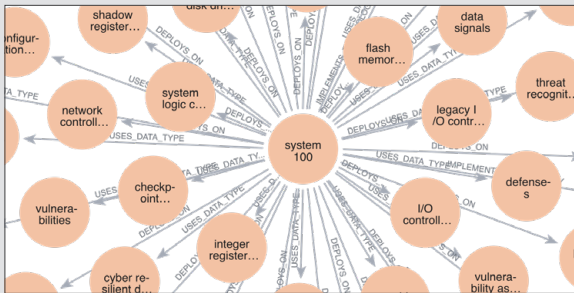
Multi-agent AI system routing coach questions through retrieval and response generation.



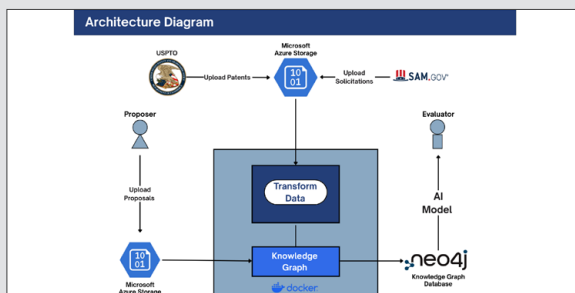
Coach interacting with the AI assistant to analyze game performance.

athlete	date	home_or_away	opponent	result	team_score	opponent_score	effective_field_g	turnover_percent	free_throw_fact
The player that r Date the stat we location of the g Opponent that si Whether the tea team total score opponent total s Effective Field G Turnover Percen Free Throw Fact									
#5	2025-02-25	home	Oregon City	W	54	29		1.00	0
#5	2025-02-11	home	St. Mary's Acad	W	84	18		1.00	0
#5	2025-02-21	away	Tigard	W	79	29		1.00	0
#5	2025-02-28	away	Lakeridge	W	86	22	0.00	0.00	0
#5	2025-02-19	away	Lake Oswego	W	68	28		1.00	0
#5	2025-01-31	away	Oregon City	W	68	43	0.00	0.00	2
	2025-02-04	away	Tualatin	L	30	55	0.00	0.29	0
	2025-03-05	away	Benson Tech	W	43	41	0.00	0.57	0
	2025-12-30	away	McMinnville	L	64	69	0.00	0.20	0
	2025-02-20	away	Lakeridge	W	86	22	0.00	0.00	0
	2025-02-11	home	St. Mary's Acad	W	84	18	0.00	0.00	0

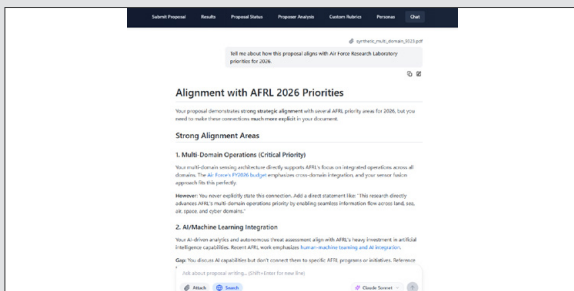
Performance data structured into knowledge bases to support AI-driven insights.



GraphRAG visualization showing extracted patent entities and their relationships, highlighting structured connections within the knowledge graph.



A diagram outlining the workflow of uploading, processing, and transforming data into a structured knowledge graph to query.



Example of the Kana Systems Hukilau chatbot interface, which enables proposers and evaluators to quickly access relevant information.



Knowledge Graph Pipeline for Department of War Decision Advantage

Kana Systems is a Nebraska-based defense technology startup developing AI tools to support faster, more informed decision making. In partnership with the Air Force Research Laboratory, Kana Systems is building an AI assistant to help proposal evaluators and submitters navigate large volumes of technical information. Evaluators often face time constraints and must review proposals from unfamiliar disciplines, requiring additional research to understand the current state-of-the-art technology. At the same time, proposers want timely, high-quality feedback to improve their submissions.

The Design Studio team addressed this challenge by developing a scalable data pipeline that converts unstructured patent and technical documents into a searchable knowledge graph. Using a GraphRAG architecture, the

system ingests uploaded documents, automatically segments them into manageable chunks, and applies language models to extract key entities and relationships. This information is stored in a graph database and linked to preserve contextual connections. When a customer submits a query, the system performs graph-based retrieval to extract the relevant and interconnected information. For example, a proposer or evaluator can ask whether similar technologies already exist and receive a summary of related patents, key concepts, and gaps where the proposal could improve upon current work, allowing quick access to connected insights across multiple sources.

The resulting system improves the efficiency of proposal evaluation by creating insights from complex data leading to better informed decisions.

TEAM > Mohanad Elsharif
Mohamed Mousa
Elizabeth Schnell

Zohaib Shaikh
Cole Walters



Automated Fall Protection Gear Assessment

Kiewit is an organization that prioritizes the safety and well-being of its workers. Kiewit enforces ANSI and OSHA compliance through robust training, equipment standards, and permit systems. The Design Studio team builds on Kiewit's Fall Protection Permit process. Ensuring proper fall protection requires calculations with significant variability, making the process time-consuming and susceptible to human error.

The core challenge is managing these variables accurately and consistently. Traditional methods rely on manual inputs and paper documentation, increasing the likelihood of mistakes and outdated information. In safety-critical environments, even small errors can have serious consequences.

The team's solution is a digital system that automates repetitive inputs, reduces manual calculations, and provides

a single source of truth for safety data. Replacing paper trails with live, continuously updated records improves accuracy, transparency, and efficiency. Real-time updates ensure workers and supervisors operate with the most current information.

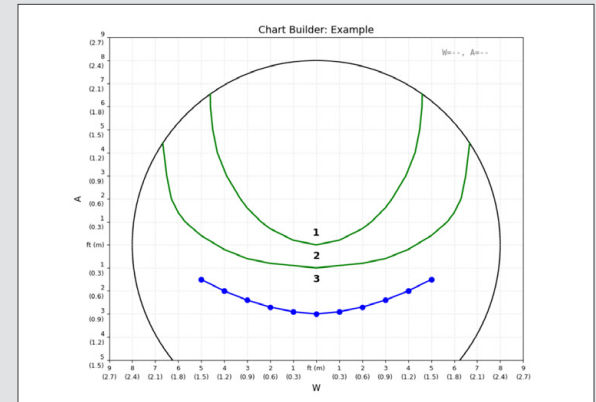
The team also developed a camera-based verification tool. This feature measures on-site fall distances and compares them directly to the calculated allowable distances on each permit. By validating real-world conditions against system outputs, an additional layer of safety assurance is added.

Developing safety-critical software requires thoughtful decision making and often challenges intuitive design assumptions. Ultimately, long-term success depends on the trust and engagement of the workers who rely on the system every day.

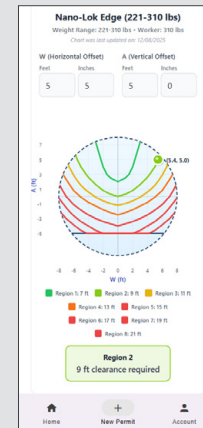
TEAM >

Anton Angeletti
Sarah Cunningham
Caleb Hans

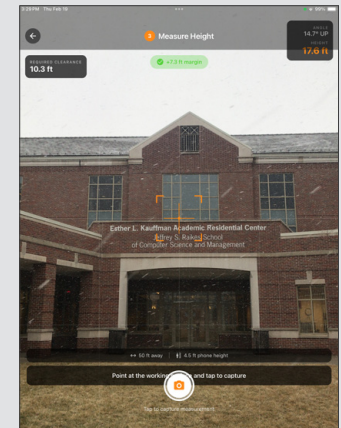
Kevin Tran
Carter Yannette



The formulas behind fall protection clearance charts aren't included, so an app was created to transfer them into digestible data.



A user inputs their scenario information and is presented with the corresponding chart, showing the anchorage point and distance required.



The measurement verification tool shows the user if the present distance is within the amount calculated.

Step 9: Fall Calculation Form

A) SRL Fall Distance from Manual

SRL Maximum Work Radius (feet) * 5 ft 4 in

SRL Anchorage Height (feet) * 4 ft 0 in

Fall Clearance from Fall Chart 10 ft

B) Additional Fall Distance

C) Is the worker kneeling with their anchor above the D-ring?

Fall Clearance Required: 13 ft 3 in
Worst Case Fall Clearance: 25 ft

Digitized version of device safety manuals, allowing workers to visualize requirements and automate fall calculations.

Kansas Bridge 1003020 Fall Protection Permits

+ Create a Permit Manage Users

Plan Number	Project	Author	Created	Status	Actions
1	1	Bob Ross	02/26/2026, 01:37 PM	In Progress	
1	1	Emily Davis	02/26/2026, 02:21 PM	Approved	
1	1	Johnny Applesseed	02/26/2026, 02:21 PM	Approved	
1	1	Bob Ross	02/26/2026, 02:21 PM	Ready for Approver	
1	1	Johnny Applesseed	02/26/2026, 02:21 PM	Ready for Authorized Signer	
1	1	Bob Ross	02/26/2026, 02:21 PM	Authorized Signer Requested Changes	
1	1	Emily Davis	02/26/2026, 02:21 PM	Expired	
1	1	Bob Ross	02/26/2026, 02:21 PM	Expired	

Dashboard for viewing and managing fall protection permits, with a second view for managing tasks.



Automated Fall Protection Gear Assessments

As one of North America's largest construction and engineering firms, Kiewit is strongly committed to the safety of its employees. Mandated Fall Protection Permits (FPPs) are one of many safeguards in place to prevent job site injuries. The existing FPP process requires job site superintendents to complete a three-page document containing conditional logic as well as manual calculations. The current approach is complex, time-intensive, and dependent on deep familiarity with safety equipment manuals and permit requirements. Superintendents may choose to complete permits using pen-and-paper or an Excel-based interface, both of which are cumbersome and lack real-time validation to inspire confidence. Most critically, miscalculations or inconsistent planning can result in unsafe working conditions and costly project delays.

To address this challenge, the Design Studio team developed a web-based application featuring a redesigned Fall Protection Permit form. The application was built to be responsive, allowing users to complete forms on smartphones, tablets, or desktops. The system powers its fall clearance calculation engine by encoding calculation charts from device safety manuals, allowing users to interact with them and input job site variables. This automates the fall clearance calculations and serves as a digital database, improving the speed at which fall protection forms can be located and evaluated.

This streamlined digital tool reduces the risk of error, ensures compliance with safety standards, and simplifies planning for field personnel. Ultimately, the application supports Kiewit's Life-Saving Actions initiative, providing supervisors and safety managers with a reliable, scalable tool to enhance worker protection at heights.

TEAM >

Sophia Heinrich
Lena Lankas
Peyton Peck

Kaden Semerad
Rachel Solberg



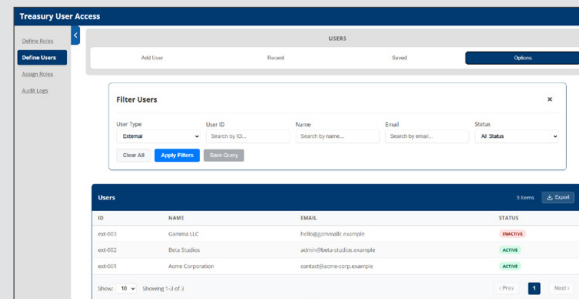
External Bank Access Tracking

Mutual of Omaha is an insurance and financial services provider aiming to provide financial security for their customers. Mutual of Omaha partners with several banks, each with its own web applications, which allow Mutual of Omaha users to view activity of their bank accounts and initiate transfers or payments. Within these systems, Mutual of Omaha employees manage the list of users—internal and external—who can access these banking applications, as well as to assign specific roles and privileges. This access must be tracked, controlled, and certified regularly through Mutual of Omaha's corporate security solution to reduce risk and meet internal audit requirements.

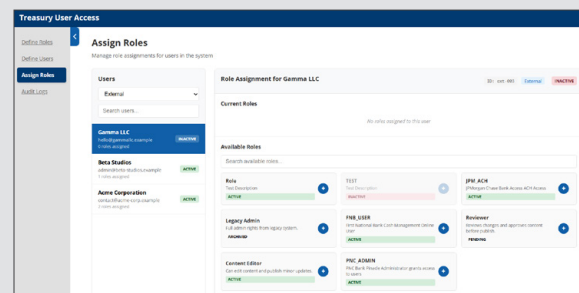
The Design Studio team was challenged to develop a cloud-based access management application that tracks, adds users, and edits permissions across

external banking systems, enabling Mutual of Omaha's Treasury department to maintain security compliance through automated role management and comprehensive audit trails. In addition to tracking general access information, the Treasury department needs audit trails due to the nature of the financial data.

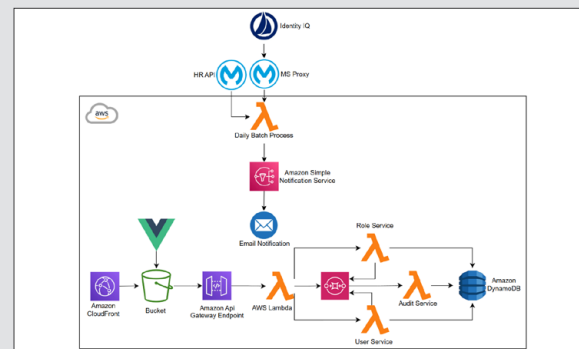
The Treasury department currently utilizes a custom solution within a vendor product for account management. While functional, the current solution is outdated and would be more customizable and maintainable by separating the functionality into its own web application. With this new application, Mutual of Omaha has more freedom over the features they want to add and how they manage access management data. Ultimately, this team's project served as a model to transition away from the current solution.



Define Roles page: Allows users to add, filter, and search roles in the system.



Assign Roles page: Allows users to manage who can access various systems and roles.



Architecture diagram of the External Banking Access Tracker.

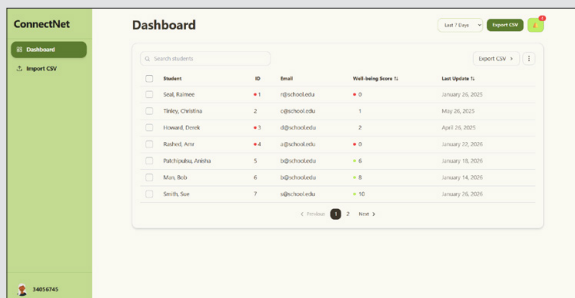
TEAM >

Drake Hermanson
Samuel Hoover
Ahmed Mahdi

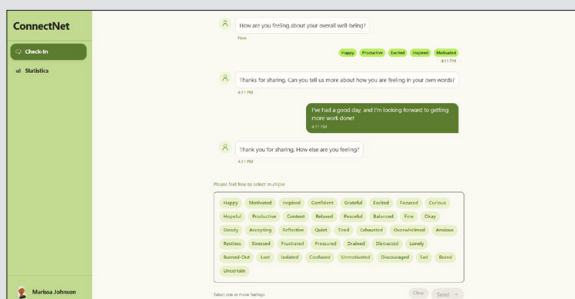
Adam Messman
Felipe Rojas



Administrator discussing well-being with students



Administrator dashboard



Student check-in



ConnectNet

Headquartered in Lincoln, Nebraska, Nelnet is a diversified corporation and leading student loan servicer, managing loans for federal and private borrowers. Beyond education finance, Nelnet provides technology services and payment processing for K-12 schools, higher education institutions, churches, and businesses in the U.S. and internationally. Nelnet serves over 1,300 higher education institutions and 11,500 K-12 schools across the globe.

According to the Centers for Disease Control and Prevention, over the last decade, there have been clear downward trends in student well-being. Students are increasingly feeling persistently sad or hopeless. Schools provide a critical environment for safety, stability, and belonging, which support student well-being and overall development. Despite this, many schools lack timely data to proactively support students.

The Design Studio team took on the challenge of creating a platform where students can express their well-being, while equipping administrators with action items and metrics to support their students. Unlike traditional surveys, this platform provides frequent, pulse check-ins that generate real-time dashboards and trend analytics, enabling administrators in schools to identify areas of concern before they escalate. This benefits students by giving them a platform to take control of their well-being and get access to personalized resources to guide them. Additionally, the platform prepares administrators by giving them clear metrics to understand overall student sentiment. By transforming student voices into actionable insights, the platform encourages early intervention, strong student engagement, and data-driven decision making that fosters a healthier environment in schools.

TEAM >

Derek Howard
Anisha Patchipulusu
Amr Rashed

Raimee Seal
Christina Tinley



Stream Assessment Portal

Olsson is a nationally recognized engineering and design firm that works closely with cities and public agencies on infrastructure and water resource projects. Many municipal clients manage stream systems and associated infrastructure and must decide where to invest limited funding for erosion control, flood mitigation, restoration, and maintenance. Although detailed Geographic Information System (GIS) data was collected, much of it was stored in spreadsheets or technical files that were difficult for stakeholders to interpret. Engineers manually translated geospatial data into reports, and clients lacked a clear visual understanding of what should be prioritized. With project costs ranging from tens of thousands to millions of dollars, providing clear, actionable information is essential.

The Design Studio team built the Stream Assessment Portal to translate complex geospatial data into an interactive web application. A key feature is the

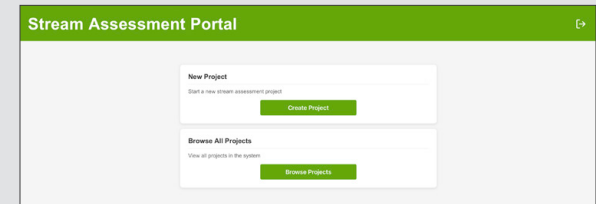
geodatabase (GDB) upload workflow. Engineers upload GDB files directly, and the application processes spatial layers, applies a hexagonal grid framework, calculates weighted condition and hazard scores, and generates client-ready visualizations and reports. Field-based assessment scores are captured and incorporated into final scoring using the industry-standard ArcGIS. The platform also classifies assets as fully functional, functional, partly functional, or not functional.

The result is a scalable decision-support tool that removes hours of manual spreadsheet creation, increases transparency, allows clients to readily make decisions, and strengthens funding justification. By automating data processing and reporting, the Stream Assessment Portal allows Olsson's engineers to focus on analysis and design rather than formatting deliverables, while supporting long-term capital prioritization across municipalities.

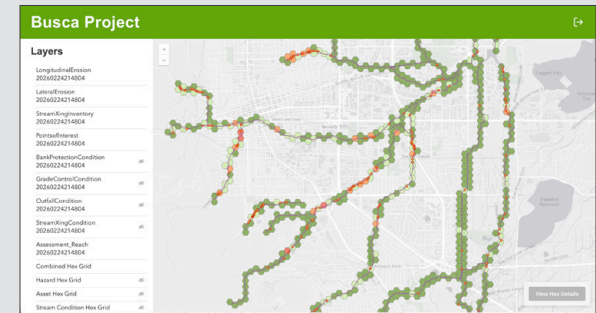
TEAM >

Claire Hellebusch
Ava Hollingsworth
Shahd Khourshed

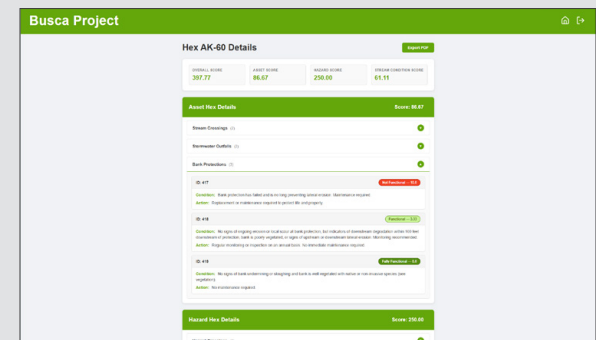
Rishi Krishna
Jillian Weland



Administrator view of the Stream Assessment Portal dashboard with options to create a new project or browse existing projects.



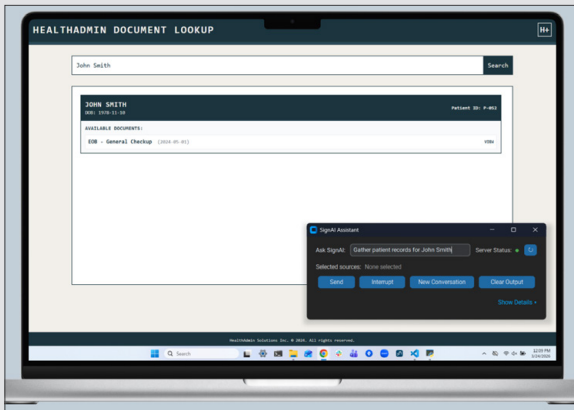
Interactive ArcGIS-powered hex-grid map visualizing stream conditions, hazards, and assets with dynamic layer controls.



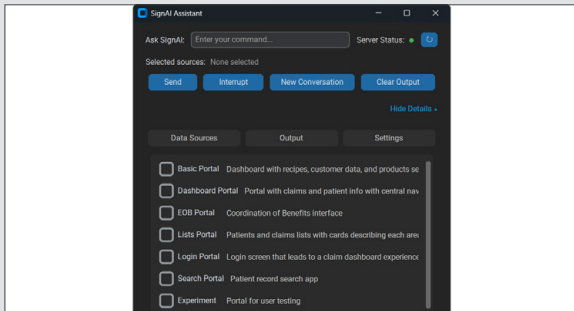
Detailed hex report showing condition scores, hazard ratings, functionality status, and recommended mitigation actions for each hex.



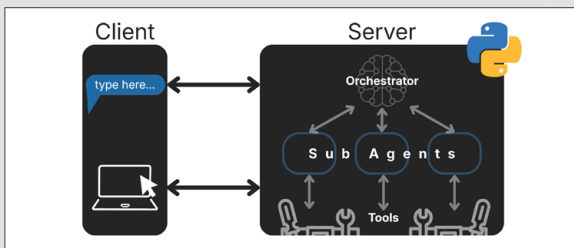
Computer Vision–Based Agentic Automation Framework



Example use of agent app interacting with mock healthcare portal through computer vision.



Configurable agent client UI that allows users to choose preset and prompt the agent.



Agent architecture.

Signature Performance is a healthcare company specializing in revenue cycle management and healthcare administration that serves payers and providers across public and private sectors. With millions of claims processed annually, automation is essential to improving efficiency and keeping operational costs low. Many payers and providers lack modern application programming interfaces, requiring manual use of web portals for tasks such as healthcare data retrieval and updates. This manual interaction creates significant administrative time and cost burdens associated with repetitive tasks.

The Design Studio team was tasked with developing an agentic framework that enables Signature team members to build automated systems capable of interacting securely with different healthcare portals. To achieve this, the team engineered an agentic framework

using a Python and LangGraph-based architecture. This framework leverages computer vision and allows for dynamic model selection to reliably navigate user interfaces and adapt to changes in the interface. By integrating custom client-side tools for actions alongside robust error recovery and quality assurance toggles, the framework securely executes structured tasks such as data extraction and claim form submissions.

This agentic framework provides Signature Performance with a scalable solution that can be used across various departments and clients to handle processes like eligibility verification and claim status inquiries. This automation process allows associates to focus on higher-intensity work while reducing human error and manual effort, improving external service quality while advancing Signature's mission to reduce healthcare administration burden and cost.

TEAM >

Rayne Aurit
Allan Muinov
Carson Reznicek

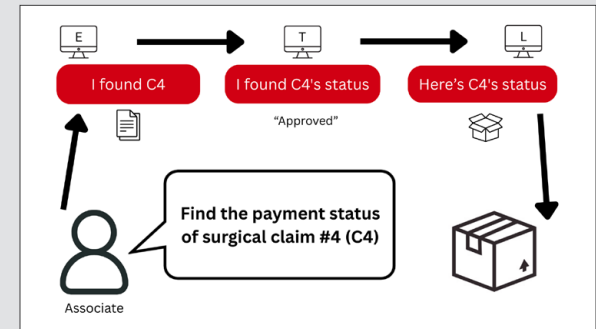
Joey Shea
Grant Wasserman

Agentic AI Automation Agent

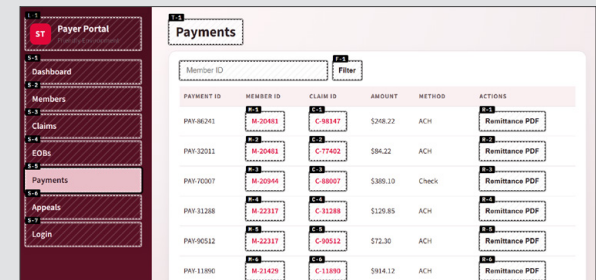
Signature Performance is a healthcare administrative services company headquartered in Omaha, NE that is committed to creating customizable, innovative solutions to transform the healthcare industry. The goal of these solutions is to reduce costs and improve efficiency for payers and providers in the commercial and federal sectors.

One solution Signature Performance provides through its administrative services is the management of claims processing. Obtaining the information to process the claim is seamless when providers set up application interfaces. These interfaces allow Signature Performance's computer systems to communicate easily with the provider's systems. When providers do not have this option, Signature Performance associates must manually navigate inconsistent providers' websites to retrieve data, resulting in a slow, tedious process.

To solve this challenge, the Design Studio team built an Agentic AI tool to manage a team of agents that interact with these providers' websites. These agents can click, scroll, and type on these websites, just like a person would. When an agent gets lost or confused on the website, it can even ask an associate for help. This tool's functionality allows Signature Performance associates to manage teams of agents who can independently retrieve what they need, freeing up their time to do other work rather than manually retrieving claim statuses and Explanation of Benefit statements.

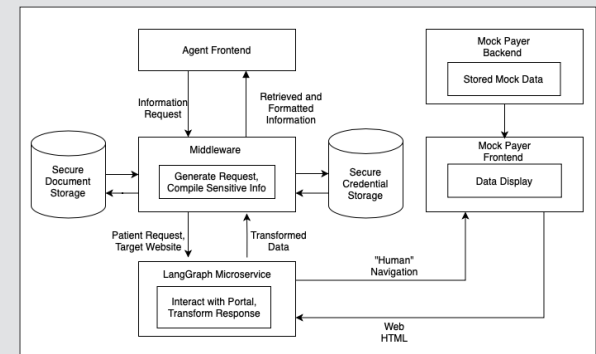


Workflow depicting an associate using the automation agent to check the status of a claim.



PAYMENT ID	MEMBER ID	CLAIM ID	AMOUNT	METHOD	ACTIONS
PKY-06241	M-20483	C-98347	\$248.22	ACH	Remittance PDF
PKY-32011	M-20483	C-77402	\$84.22	ACH	Remittance PDF
PKY-70007	M-20946	C-88007	\$385.10	Check	Remittance PDF
PKY-31288	M-22317	C-32388	\$125.85	ACH	Remittance PDF
PKY-95512	M-22317	C-90512	\$72.30	ACH	Remittance PDF
PKY-11890	M-21429	C-11890	\$914.12	ACH	Remittance PDF

Web page components: A visualization of how the Agentic AI tool sees the web page

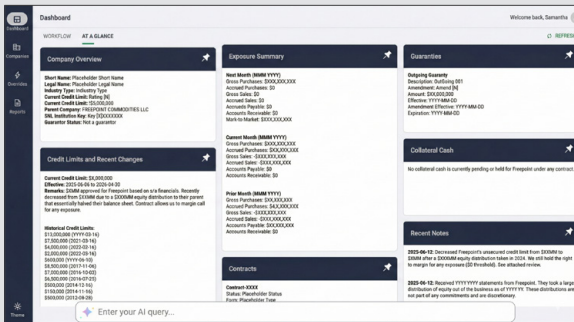


Architecture diagram showing data flow.

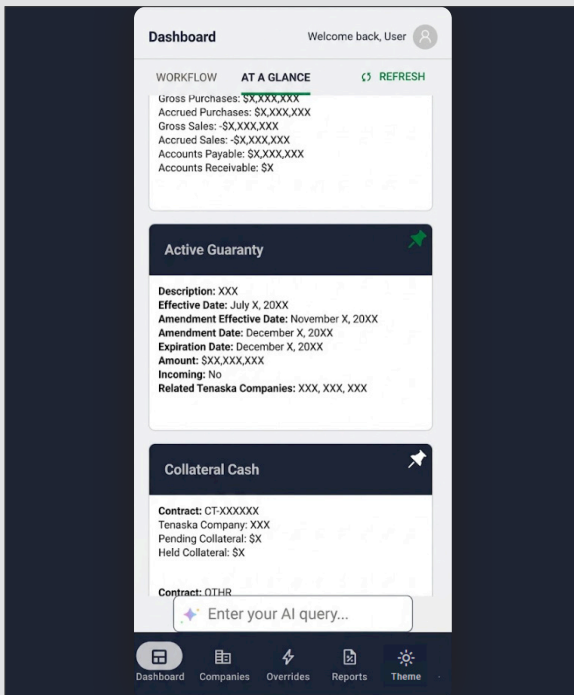
TEAM >

Radhika Damle
Michael DeJournett
Noah Janke

Ella Moody
Vincent Rotolo



Desktop application consolidates financial data, guarantees, exposure, and notes into a single streamlined, decision-ready interface.



A mobile view enables analysts to review proposals and key risk details anytime, from any device.



Credit Insights Experience

Tenaska is a leading energy marketing and trading company that facilitates natural gas and power transactions across North America. Each day, Tenaska's credit analysts receive numerous credit proposals from counterparties requesting approval for gas and oil purchases. To evaluate these requests, analysts must manually review multiple systems and documents: checking guarantees, credit statements, contract lengths, exposure levels, and other qualitative and financial factors. This fragmented process slows decision making in time-sensitive trading environments where speed and confidence are critical.

The Design Studio team was challenged to enhance Tenaska's ability to make split-second credit decisions by providing instant, natural-language insights that drive quick, flexible, and confident decisions across any device. To address

this, the team developed a mobile-friendly AI-powered credit intelligence platform that aggregates proposal data into a single interface. Leveraging natural language processing and structured data pipelines, the platform synthesizes key financial metrics, contractual terms, and risk indicators into concise, plain-language summaries. Analysts can instantly ask questions about a proposal and receive clear, context-aware responses, whether at their desk or on their phone, throughout the trading day.

This solution reduces time spent navigating systems, increases consistency in credit analysis, and empowers analysts to respond faster to trading opportunities. By delivering secure, real-time insights in a mobile-accessible format, the platform positions Tenaska to make more agile, informed credit decisions in a fast-moving energy market.

TEAM > Allie Enyart
Linh Ha
Alison Lenaghan

Minh Vu
Sam Wallenburg

> STARTUP STUDIO



Creevo is an AI-powered game development platform built for creators who have ideas but lack the time, or technical background, to learn complex game engines. Traditional game development requires understanding complex gaming environments and physics-based coding, creating significant friction for artists, students, hobbyists, and even experienced developers who simply want to prototype quickly. The challenge was to abstract that technical complexity while still generating structured, production-ready games.

The Startup Studio team built Creevo on top of the lightweight Godot engine to enable fast iteration cycles. At the core of the system is our open-source Creevo Agent Library (CAL), a modular orchestration layer that manages prompt refinement, tool execution, and real-time game updates. CAL

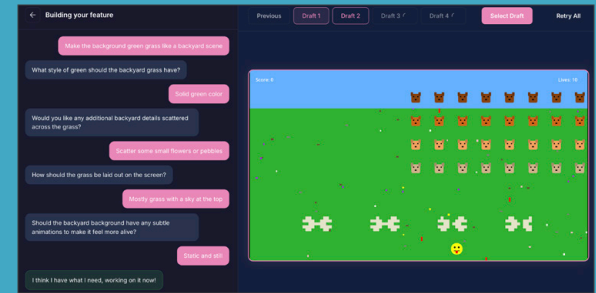
allows rapid integration and swapping in the most efficient and performant large language models as the artificial intelligence ecosystem evolves, without refactoring the core infrastructure. Users begin with structured templates, such as Space Invaders or Super Mario Brothers, and iterate synchronously through natural language. When a feature is requested, the agent asks targeted clarification questions before generating updated scenes, scripts, and configurations, ensuring cohesion between the idea in the user's mind and the agent's system. Creevo also integrates with a large asset library, enabling users to seamlessly incorporate sprites, animations, audio, and user interface elements into their games.

Creevo dramatically reduces time-to-prototype while empowering more people to create and share games.

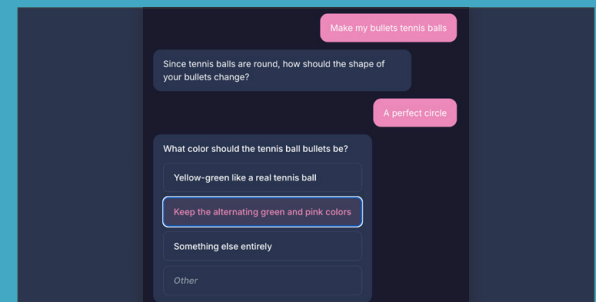
TEAM >

Lucas Coelho
Riddhi Munjewar
Mia Siner

Amir Tarkian
Cole Welstead



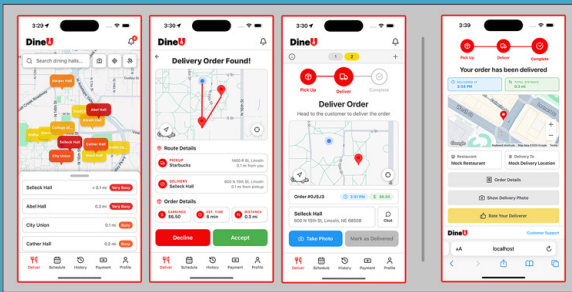
The primary iteration page on Creevo.app lets users play games on the right and request improvements on the left.



As the user submits new game ideas in the chat, the AI agent perfects the request.



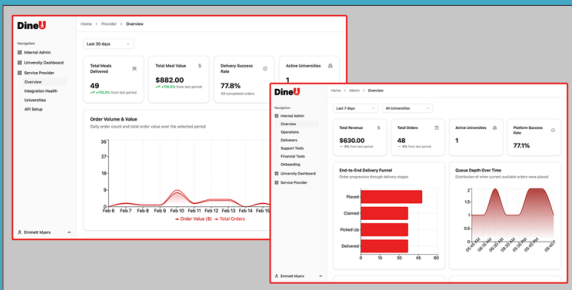
The Creevo team had many conversations about the application's competitive advantage and value proposition over existing solutions.



DineU's deliverer mobile app allows students to find and complete deliveries, which customers can view in the delivery tracking page.



A student deliverer completing a food delivery order using DineU's platform.



DineU's analytics dashboard allows administrators to view key operational and financial statistics.

> STARTUP STUDIO



College students consistently face the issue that food delivery on campus is both expensive and unreliable. Campus layouts can be confusing for non-students and inaccessible to vehicles in many areas, leading to lost orders or deliveries sent to the wrong location. At the same time, third-party delivery services charge high fees and force students to forgo meal swipes they have already paid for.

To address this, the Startup Studio team developed a student-to-student meal delivery platform designed specifically for on-campus dining. The technology platform enables students to use their existing meal plan currency, making delivery more convenient, reliable, and cost-effective. The platform also creates a flexible, gig-based earning opportunity, allowing students to deliver meals on their own schedules and generate income at their convenience.

The team has created a full-stack technology platform for university food delivery: a deliverer mobile app, a customer tracking page, an administrative analytics dashboard, and an external delivery application programming interface. The system supports end-to-end deliveries, real-time communication, algorithmic matching, financial flows, and operations monitoring. In addition, the team has completed or is actively pursuing several key compliance standards, including SOC 2 Type 1 and 2, VPAT, and HECVAT.

The team has established key partnerships with UNL Dining Services and Transact Campus, the largest campus commerce provider in the U.S. A UNL pilot will run in Fall 2026.

TEAM > Ryan Flatley
Landen Fogle
Harith Himdan

Emmett Myers
Tage Zerby

> STARTUP STUDIO

FindU

For many high school students, searching for the right college feels overwhelming. Information about schools, majors, and campus life is spread across dozens of websites, and it is hard to tell which colleges are actually a good fit. High school counselors want to help but lack tools to track what students are exploring or where they need guidance.

FindU is a college discovery platform that makes the search process more personal and easier to navigate. The Startup Studio team partnered with Nebraska high schools and spent time in classrooms presenting the platform, onboarding students, and collecting feedback on what works and what needs improvement. Based on those conversations, the team built a web-

based version of FindU so students could access it on school Chromebooks and computers, not just on personal phones. The team also developed an early version of a counselor dashboard, giving high school counselors a way to see what students were interested in and to better support their college exploration.

Through this work, the team learned what students and counselors actually need and used that feedback to shape the product. FindU helped simplify a stressful process for students and provides counselors more visibility into student interests. The team plans to bring on more high school partners and begin working with colleges looking to connect with prospective students.

TEAM >

Lance Buscher
Kenny Morales
Wilson Overfield

Zakaria Rab
Tatum Terwilliger



Zakaria Rab and Lance Buscher present FindU to high school students during a classroom visit.



Tatum Terwilliger and Lance Buscher onboard students from Malcolm Jr/Sr High School.



A student opens FindU for the first time on their phone.



The homepage of Reach, featuring the core features such as games, streaks, and quests.

The interface for students when they answer questions.



Reach is made by students with experience in preparing for standardized exams.

> STARTUP STUDIO



Standardized test scores like the ACT are crucial to secure funding for high schools, but many schools lack the necessary resources to provide adequate prep for their students. From the students' perspective, standardized tests are critical for future plans, such as college admissions and scholarships, and many students lack the opportunities to properly prepare for an exam.

Reach is a mobile app that provides schools with affordable test preparation that assists students' learning. With a recommendation algorithm, multiple games that support student's test taking skills, and other features, students are able to practice questions whenever and wherever they have free time.

The Startup Studio team has created strong connections with schools in Nebraska. From small rural town schools, to large schools in the heart of Lincoln, Reach has already provided support for 100+ students around the state. These students and their educators have provided recommendations for features in Reach.

Reach continues to provide testing support for students and educators, as the team continues to work closely with the education community to create test prep for everyone.

TEAM >

Dante Dyches-Chandler
Delia Holman
Loc Nguyen

Jake Rance
Lucy Salyer

> RESEARCH STUDIO



Subgroup Differences in Asian American Higher Education

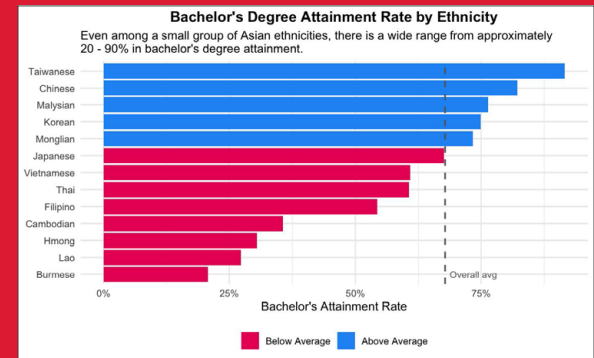
Individual experiences in higher education vary greatly, and while data collection and usage has expanded in many industries, it tends to fall short of capturing the full picture. Data is often collected and used in a way that lacks visibility for many demographics by merging minority subgroups into one broad label of Asian American. These students' experiences vary widely. When data is aggregated within a broader category, significant disparities are masked, often leaving students without the targeted support they may need to succeed.

This research explores the relationship between Asian ethnic subgroups' experiences in higher education and the factors that shape them, including ethnicity, income, parental education attainment, sex, family size, and other related variables. By highlighting differences among subgroups and pulling in historical context to support findings,

the simplified picture that current data practices produce is challenged.

Data is drawn from IPUMS USA, a database providing access to American population samples from sixteen federal censuses. Specifically, the 2023 five-year American Community Survey sample is used, filtered to ages 25–34 and narrowed to 13 Asian ethnic subgroups to capture individuals who have completed some level of higher education. Statistical tests and analyses were conducted to measure correlations between bachelor's degree attainment and various factors.

These findings aim to inform policy advocating for disaggregated data collection and its use to shape targeted programs and outreach. Ultimately, this research contributes to dismantling the common monolithic view of Asian Americans by offering a more whole, nuanced understanding of differences in experience in higher education.



Rates of bachelor's attainment among subgroups included in this research.

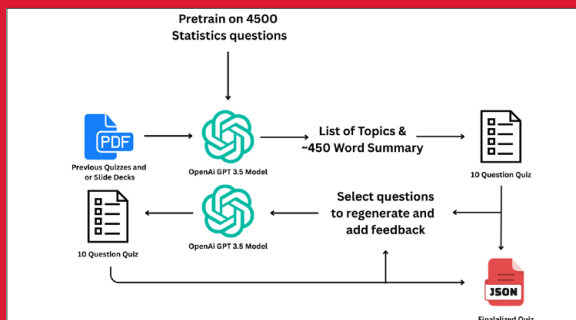


One of the main overarching groups observed is Southeast Asia.

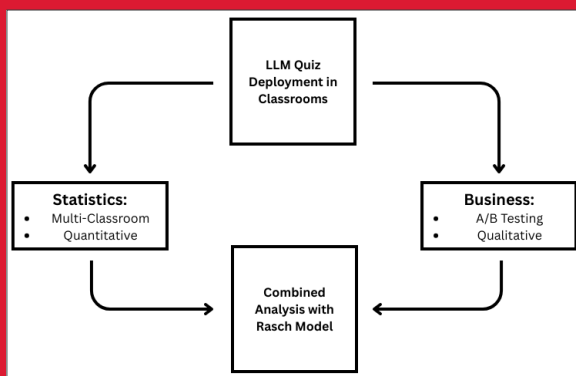
TEAM >

Caiya Khammaly

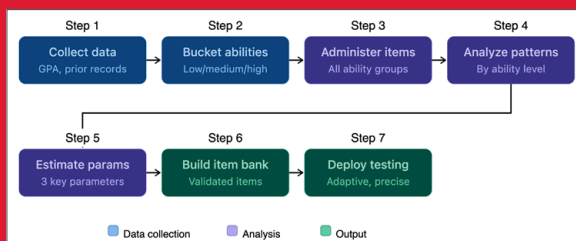
Dr. Katrina Jagodinsky, Associate Professor,
Department of History



Flowchart showing how AI generates, and professors refine quiz questions from course materials.



Flowchart showing how AI-made quizzes are tested and evaluated in different subjects.



Flowchart showing how question quality is measured using student performance data.

> RESEARCH STUDIO



Development and Psychometric Evaluation of an AI Pipeline for Quiz Question Generation

Creating quizzes and exams is a time-consuming task for many university instructors. Professors often spend hours writing questions that accurately test what students have learned from lectures and course materials. While artificial intelligence (AI) has made it easier to generate text and ideas, researchers have begun exploring whether it can also generate assessment questions. Many existing systems focus on a single subject area. This research explores whether AI can generate effective quiz questions across multiple subject areas, including quantitative and qualitative subjects.

To address this challenge, a tool was created that uses AI to turn lecture slides into quiz questions. Instructors upload their slides, and the system analyzes the materials to generate questions. These

questions can be reviewed and edited by the instructor before being used with students. After the questions are given as a quiz in class, analysis of student performance determines whether the questions are effective.

This project demonstrates how AI can help instructors reduce the time required to create quizzes while still producing meaningful assessments. Studying how AI-generated questions perform with real students across multiple subjects can lead to a better understanding of when these tools work well and how they can be improved. In the future, the system will be expanded to additional courses and connected directly with learning platforms such as Canvas allowing instructors to easily generate quizzes from their course materials.

TEAM > Deva Pushkaran

Dr. Seth Polsley, Assistant Professor,
Jeffrey S. Raikes School of Computer Science and Management

> RESEARCH STUDIO



No Doubt About Drought: Predicting Midwest Drought Conditions using Machine Learning

Over the past decade, droughts have drawn increasing attention due to their substantial agricultural and economic consequences, particularly in the US Great Plains area (e.g., the 2012 Central U.S. event and the 2017 Northern Plains event). Although certain large-scale atmospheric and oceanic patterns are necessary for drought development, land-atmosphere interactions can play an important role in the intensification of drought conditions. Model-based studies also suggest that soil moisture initial conditions can provide the greatest contribution to the predictability of temperature and precipitation on seasonal-to-subseasonal timescales (e.g., Roundy and Wood 2015; Esit et al. 2021; Meehl et al. 2021).

This research aims to predict United States Drought Monitor drought categories for 1-3 week lead times given atmospheric and land surface variables, using a convolutional neural network. We start with the European Centre for Medium-Range Weather Forecasts Reanalysis v5 (ERA5) reanalysis variables such as geopotential height, temperature, soil moisture, and evaporation, which are processed on various time and geographic scales for different experiments. Drought is predicted in the Midwest region, with the potential to predict across the Continental United States. This work will help climatologists forecast drought conditions, and future work can explore the relative contributions of each variable to the drought development and intensification.

TEAM >

Lily Rippeteau

Dr. Liang Chen, Assistant Professor,
Department of Earth & Atmospheric Sciences

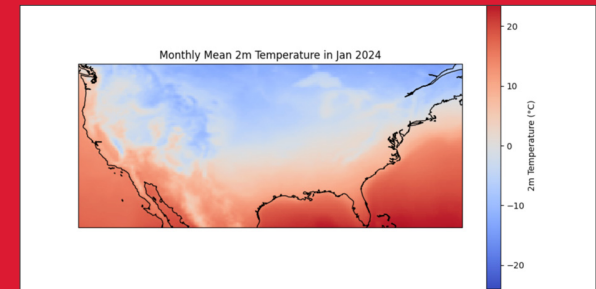
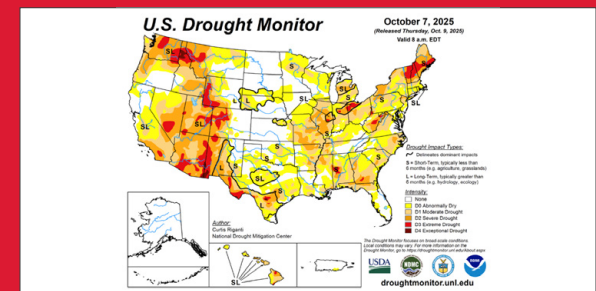
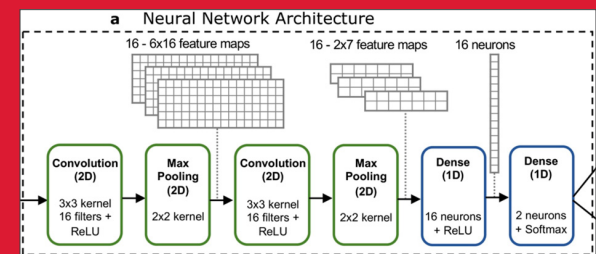


Chart displaying the monthly 2-meter temperature in Jan. 2024 across the United States from the ERA5 dataset.



The U.S. Drought Monitor produces a weekly map displaying drought conditions in the Continental United States.



A convolutional neural network can be used to predict climatological events given atmospheric and land surface variables (Davenport, F. V., & Diffenbaugh, N.S. (2021).

OUT OF THE > > > CLASSROOM

Design Studio students often strive to immerse themselves in the environments, challenges, and users they are designing for. Working with real clients often requires them to step into the field to conduct interviews, observe workflows, validate assumptions, and confront ambiguity head-on. This experiential learning is not easily duplicated in a classroom. It helps students discover the nuances of a successful solution by engaging in authentic understanding rather than theoretical guesswork.

Just as important, this process strengthens team culture. When students explore a domain together — whether by talking with customers, researching industry practices, or testing early prototypes — they develop a shared language and a deeper appreciation of the problem space as well as establishing trust with their stakeholders. The repeated cycles of discovery, development, reflection, and iteration help teams build cohesion because they learn to navigate uncertainty collectively. Engaging with real companies and community partners creates a sense of purpose that bonds team members and encourages them to support one another as they tackle complex challenges.

As teams spend extended time embedded in the domain of their project, they naturally develop a culture of curiosity and appreciation for the true problem at hand. They come to rely on each other's strengths as they interpret user insights, refine ideas, and adjust direction, all of which reinforces a collaborative mindset essential to professional practice. Ultimately, the work outside the classroom doesn't just deepen their understanding of customers; it creates teams capable of producing tomorrow's solutions that resonate with the real world.





STUDENT MAJORS

Accounting	1	Economics	2
Actuarial Science	4	Management	1
Biochemistry	1	Mathematics	4
Biosystems Engineering	1	Mechanical Engineering	1
Business Administration	1	Software Engineering	21
Computer Science	60	Supply Chain Management	1
Data Science	10		



INDUSTRIES REPRESENTED

Agriculture	Food
Construction	Gaming
Defense	Healthcare Services
Education	Insurance
Energy	Software
Engineering	Retail
Financial Services	Sports

AT A
GLANCE

		PRIMARY BUSINESS VALUE				
PRIMARY TECHNICAL DOMAIN		Efficiency	Growth	Customer Satisfaction	Agility	Ground Breaking
	Business Analytics	> Farm Credit Services of America				
	Digital Operations	> Buildertrend > HDR > Nelnet	> DineU	> DMSi > Olsson	> Signature Performance	
	User Experience	> Kiewit		> Buckle		> FindU
	Integrated Systems	> Kana Systems			> Mutual of Omaha	
	Emerging Technologies	> Tenaska		> Conagra Brands > Reach	> Hudl	> Creevo



WHY

Sponsor a Project?

> > >

In addition to growing the business and technology workforce in Nebraska, our sponsors bring value back to their companies through:

THE OUTPUT OF THE PROJECT:

- Revenue generation
- Cost savings
- Efficiency improvements
- Proofs-of-concept
- Acquired intellectual property

INNOVATIVE WAYS OF THINKING:

- Students bring experience with emerging technologies to the project
- Bring a fresh perspective and break the “we’ve always done it this way” mindset

IDEAL SETTING FOR EXPERIMENTATION:

- Good fit for new and emerging managers to lead a project
- Low-risk way to try creative solutions

WHEN are Projects Selected?

> > >

APRIL/MAY

Many of our partners are so passionate about the program, they come back year after year. As soon as showcase concludes, we will start finalizing projects for the next year and identify opportunities for new sponsors. Spring is the perfect time to reach out to Design Studio staff to inquire about a project.

JUNE/JULY

This is when projects are confirmed and selected sponsors finalize their statements of work.

AUGUST

Sponsors and coaches gather for a summit, and projects are assigned a pair of student managers. Once the fall semester begins, sponsors participate in project rollout, a career-fair style event where students learn about the projects to discern the best fit for them personally.



THE DESIGN STUDIO TEAM



> **ROB NICKOLAUS**
Director of Design Studio

Rob has been involved in software and technology teams for thirty years working with startups, large companies, non-profits, and volunteer organizations. His roles ranged from individual contributor to technical leader to strategist. Rob's passion is growing the next generation of Nebraska leaders.



> **JAKE KOPERSKI**
Assistant Director of Startup Studio

Previously a software engineer and startup entrepreneur, Jake is now creating opportunities for student entrepreneurs and mentoring teams on best practices.



> **KK KHOO**
Design Studio Program Lead

Previously a Product Manager with 20 years of experience leading cross-functional teams, driving growth strategies and building next generation products, KK now helps students do the same.



> **RACHEL MICHAELA METTENBRINK**
Design Studio Architecture and Engineering Lead

A budding academic with over a decade of experience in software and IT, Rachel uses her expertise to guide students through the technical challenges they face in Design Studio and Research Studio.



> **DR. JERRY HUDGINS**
Interim Executive Director of the Raikes School

Jerry led UNL's Electrical and Computer Engineering Department, served as Director for the UNL Energy Sciences Research Center, and served on several local industry and international organization's boards.



> **DR. STEVE COOPER**
Faculty Director

Previously at Stanford University, Steve believes in learning by doing and that changing the world in the 21st century starts with understanding business and computer science.



> DR. ALISHA BEVINS
Assistant Professor of Practice,
Academic Lead

Alisha designs intuitive human-robot and human-computer interactions and teaches through collaborative, project-based, hands-on learning that connects computing concepts to real-world design and development.



> DR. JUSTIN FIRESTONE
Assistant Professor of Practice,
Academic Lead

Focused on the intersection of technology, ethics, and law, Justin teaches software engineering and business law courses for the Raikes School and cyber law at Nebraska law.



> DR. SETH POLSLEY
Assistant Professor of Practice,
Academic Lead

Data science professor at the Raikes School, Seth promotes the integration of artificial intelligence into practical applications.



> DR. ROBERT MACKALSKI
Associate Professor of Practice,
Academic Lead

Software entrepreneur turned academic; Bob teaches marketing courses at the Raikes School.



> DR. STEPHANIE VALENTINE
Associate Professor of Practice,
Academic Lead

Teaching software engineering courses at the Raikes School, Stephanie works with Design Studio teams on novel interaction design and applied machine learning.

SPECIAL THANKS

Design Studio Coaches

Coaches are industry experts and volunteers who meet with their teams weekly to provide mentorship and guidance on best practices.

- Bill Anderson
- Raul Barreras
- Todd Bryant
- Sean Carroll
- Brandon Collins
- Nick Ebert
- Andy Giese
- Rees Klintworth
- Skyler Meints
- Brian Mettenbrink
- Cheryl Nelson
- John Roby
- Jake Sanchez
- Jonathan Scholtes
- Matt Secoske
- Ashlyn Slawnyk
- Trevor Slawnyk
- Drew Wigodsky
- Matt Will
- Brian Zimmer
- Steve Zinn

Startup Studio Advisors

Startup Studio advisors are industry mentors who participate in release meetings and provide feedback and guidance to the teams throughout the year.

- Scott Baird
- Alyssa Cave
- Samuel DeZube
- Kendra Ritchie

Guest Speakers

- Bill Anderson
- Jack Arens
- Mark Antonson
- Raul Barreras
- Drew Buss
- Sean Carroll
- Jen Doan
- Samuel Ingledue
- Dorothy Johnson
- Bob Kubicek
- Andrew Manz
- Stephanie Merritt
- Skyler Meints
- Gleb Moissejev
- Hans Nunink
- Narayanan Nair
- Paul Owens
- Eric Reichwaldt
- Kenneth Versaw
- Drew Wigodsky

Special Thanks

- Award committee
- Becky Barnard
- Lauren Becwar
- Mike Buck
- Mike Cassling
- Bart Dillishaw
- Shonna Dorsey
- John Grange
- Dan Hoffman
- Pat Kerrigan
- Jody Myers
- Melissa Nickolaus
- Chuck Norris
- Julie Perez
- Abbey Post
- Stephanie Severin
- Shelby Strattan
- Jona Van Deun
- Ben Williamson

JOIN US IN CREATING >>> WORLD-CLASS INNOVATORS!

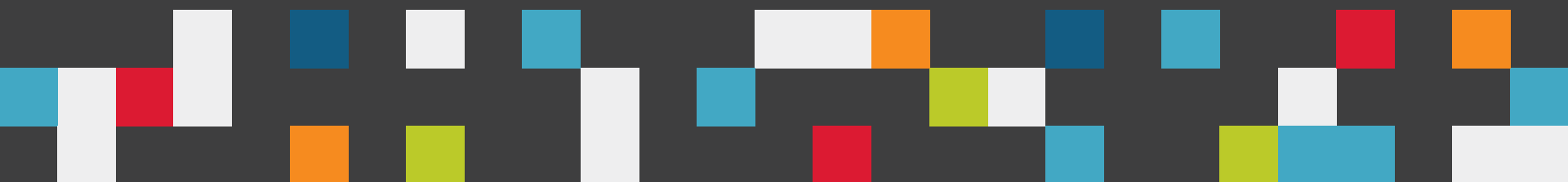
- > To learn more about supporting the Jeffrey S. Raikes School of Computer Science and Management, contact Abby Dieter Shoemaker, Director of Development
abby.shoemaker@nufoundation.org | 800-432-3216
- > To learn more about sponsoring a project, volunteering, or joining Design Studio as a student, contact Rob Nickolaus, Director of Design Studio
designstudio@unl.edu | 402-472-6000

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Jeffrey S. Raikes School of Computer Science and Management
630 N 14th St. | Kauffman 123 | Lincoln, NE 68588-0690
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