Looking at a complex world and seeing opportunity is what sets students in Design Studio apart. Through a curriculum that is built on training processes for innovation, students in Design Studio learn how to model systems and behavior, how to design elegant yet powerful solutions that are human-centered— they learn how to design for a world with a billion more people than ever. The world of this century needs people who can break disci- plinary barriers and deliver in any environment, and those are exactly the kinds of people that Design Studio is producing.

Seven months ago, as campus was waking up to a new aca- demic year, 100 students came together to develop software solutions to address the needs of 17 sponsor organizations. Ranging from institutional research partners, to soon-to-be- systems to address the needs of 17 sponsor organizations. Ranging from institutional research partners, to soon-to-be-

 successes. At its core, that is what Design Studio is all about.
PUSHING PROJECTS INTO PRODUCTION

Students in Design Studio are accustomed to getting their work in front of real users. This year, two projects took that concept to the next level: regularly releasing their software into full production and an active user base.

Together Clinic: A track record of successful projects. Students are tasked with capturing information, analyzing data, and determining the right kind of visualization for the end user.

TOGETHER+CLINIC: Data Challenge: The company wanted to redact sensitive information from millions of scanned files. Solution: The team built a conversion pipeline that takes sets of 2D images and builds them into 3D models. Rather than spending time sifting through scans or scanned images, doctors can utilize one software application that allows them to examine all of the scans of a particular body part from a 3D perspective.

HUDL: Data Challenge: Hudl wanted to give their users a “golf coach in their pocket,” by helping individuals analyze their golf swing to improve their game. At 240 frames/second, the team needed to find an efficient way to process and interpret the video data on a device with limited power (smartphone).

FISERV: Data Challenge: A banking technology company wanted to utilize facial recognition technology to improve the customer experience. The student team needed an efficient, yet effective algorithm to process thousands of images and hundreds of data points to properly identify a human face.

TRAINERING FOR A COMPETITIVE ADVANTAGE

The projects below represent a sampling of recent data challenges in Design Studio:

TOGETHER+CLINIC: Data Challenge: Doctors want to stay connected to their patients, but don’t have the time or resources to sift through the data to individually monitor patient conditions and better prevent hospital readmissions.

Solution: Using the application, patients input data about their symptoms and vitals. An algorithm processes the data and visualizes it, enabling medical staff to quickly identify patients who need follow-up care.

MUTUAL OF OMAHA: Data Challenge: The company wanted to reduce sensitive information from millions of scanned files. Solution: Using computer vision and OCR technologies, the software identifies and obscures regions containing sensitive handwritten information from millions of scanned files.

MEDXT: Data Challenge: MedXT wanted to explore how technology can be leveraged to incorporate large data sets from MRIs, CT scans, and other medical imagery to make doctors more efficient in their interpretation of patient health data.

Solution: The team built a conversion pipeline that takes sets of 2D images and builds them into 3D models. Rather than spending time sifting through scans or scanned images, doctors can utilize one software application that allows them to examine all of the scans of a particular body part from a 3D perspective.

HUDL: Data Challenge: Hudl wanted to give their users a “golf coach in their pocket,” by helping individuals analyze their golf swing to improve their game. At 240 frames/second, the team needed to find an efficient way to process and interpret the video data on a device with limited power (smartphone).

Solution: Influenced by a lecture on diversity given at the spring advisory board meeting by University of Michigan Professor and Santa Fe Institute Fellow Scott Page, the team chose to use seven different algorithms to build a neural network that produces better and quicker results than any one particular algorithm.
This year marked the start of a strategic partnership between Design Studio and Innovation Lab, the senior capstone course in the Department of Computer Science and Engineering. Recognizing the well-developed procedures and infrastructure of Design Studio, CSE looked to the Design Studio team to collaborate to find ways to enhance the student capstone experience beginning in 2014.

As a result, both programs are exploring ways to integrate iLab with Design Studio. This year saw Design Studio providing support for project management and instruction in iLab, driving a significant amount of value for CSE students, providing a deeper level of exposure to industry procedures and methodology, including agile engineering processes and lean business development.

Surveys were issued each month to iLab students to gauge the success of the partnership. Results indicated that students were reaching their goals and achieving better outcomes, a natural by-product of a more streamlined process.

This year, working in collaboration with Design Studio, iLab ran both in the fall and the spring, tackling a total of six projects with three releases over the course of two semesters. One of the sponsors, i4 Opportunity Partners, worked on a joint project with both Design Studio and iLab student teams. Students learned to communicate about their respective solutions and worked together to hit release deadlines and integrate their outcomes.

Design Studio and CSE shared the workload to leverage the strengths of both teams. The Design Studio team was responsible for identifying and securing Lab projects for CSE, and CSE faculty mentored students in addition to leading the applied computer science components of projects.

The future for both programs looks bright, with plans for full integration of iLab into Design Studio, including curriculum. CSE faculty and staff will teach in tandem with the Design Studio team. In addition, renovations taking place in the Kaufman building will create more space for teamwork, collaboration, and mentoring.

The Design Studio team and CSE agree that a more consistent process will better equip students with the skills and experiences necessary to compete in the worldwide talent pool.
We’re incorporating a variety of touch points to build a toolbox for tellers and bankers to use to deliver a better customer experience.”

— Ryan Erdmann

What if a bank could leverage emerging technology to transform the customer experience, beginning with the very first interaction?

As a global organization with more than 14,500 clients worldwide, Fiserv is highly regarded for its financial services technology and innovation, including award-winning solutions for mobile and online banking, payments, risk management, data analytics, and core account processing.

With an ultimate goal of enabling customers to move and manage money faster and with greater ease, Fiserv looked to Design Studio to explore how facial recognition software could transform the future of banking.

To tackle this challenge, student development manager Ryan Erdmann and his team outlined the scope of work that included facial recognition, speech recognition, and remote assistance.

“They essentially wanted to find out what it would look like to re-imagine the experience for banking customers,” Erdmann explains. “Many of these technologies exist elsewhere, and we needed to figure out how to bring them into the banking environment.”

Based on their research, the team discovered two significant benefits for the end user, including fraud prevention and a more personalized experience, helping bank staff recognize someone the moment they walk into the bank.

To capture the visual information needed to perform facial recognition, the team relied on a Microsoft Kinect v2 camera, as well as an security camera from the bank. But they needed to find the right set of algorithms to interpret the data.

“As humans, our brain naturally leads us to recognize another person. But we’re not 100% sure why that is.

Once the team had sketched out the project details, they traveled to several bank locations to observe customer interactions and research the customer experience from the perspective of the teller, banker, and customer.

“For many students simply rely on mobile and online banking, we weren’t as familiar with the bank environment. We could have falsely assumed that each bank was the same,” says student product manager Joe Lunde. “But we discovered that every bank has its own unique clientele and atmosphere. Our software needed to be able to accommodate these differences.”

Once an image is processed, it is linked to a robust notification system to let a teller or banker know that a customer has arrived. At this point, the speech recognition feature comes into play.

“The speech recognition feature functions like Siri,” says Lunde. “A teller could use it to instruct the system to pull up a particular account. When paired with facial recognition, it makes for a more efficient experience.”

For customers who choose to seek banking assistance from home, the solution includes a video chat option similar to the Amazon Mayday feature. Through an “assist me” or similar button on the bank’s website, a customer would have the opportunity to video chat with a teller or banker in real-time.

The team also had the opportunity to integrate their solution with a Fiserv team from New Zealand that was working on a project involving Bluetooth technology.

“Do we recognize the eyes, the structure of the nose, or a combination of features simultaneously? We are using sophisticated computer vision, but it’s still not as good as the human brain,” says Erdmann.

The team built a neural network trained with machine learning to combine the results of the algorithms. In doing this, they were able to achieve an accuracy rate of 80%. In sample tests, a respectable rate given the current state of facial recognition technology.

Once an image is processed, it is linked to a robust notification system to let a teller or banker know that a customer has arrived. At this point, the speech recognition feature comes into play.

“Once an image is processed, it is linked to a robust notification system to let a teller or banker know that a customer has arrived. At this point, the speech recognition feature comes into play. For customers who choose to seek banking assistance from home, the solution includes a video chat option similar to the Amazon Mayday feature. Through an “assist me” or similar button on the bank’s website, a customer would have the opportunity to video chat with a teller or banker in real-time.

The team also had the opportunity to integrate their solution with a Fiserv team from New Zealand that was working on a project involving Bluetooth technology.

“We’re incorporating a variety of touch points to build a toolbox for tellers and bankers to use to deliver a better customer experience,” says Erdmann.
2014-15 DESIGN STUDIO SPONSORS

DESIGN STUDIO | SWING COACH
HUDL
Use video and image analysis techniques to develop an iOS application that individual golfers can use to automatically capture their swings and improve their performance on the course.

DESIGN STUDIO | LOCATIONS
CITY OF LINCOLN
Implement a web-based platform for mobile asset tracking and analytics to provide a unified framework to allow municipal departments to easily manage, track, and deploy vehicles assets in the field.

DESIGN STUDIO | REINVENTED CONTINUUM OF CARE
TOGETHER+CLINIC
Enhance a web-based solution that connects patients and physicians by giving patients a place to enter daily vital statistics supporting a physician dashboard and web-based analytics and patient monitoring. Develop machine-learning algorithms to predict patients’ health care needs and improve the overall customer experience. Implement a proof of concept application that integrates with various health care data sources into a cohesive report.

DESIGN STUDIO | DATA ANALYSIS MAPPING TOOL
3D TOOLS FOR MEDICAL IMAGERY
Develop 3D visualization tools and next-generation manipulation techniques for more advanced imaging platforms. Evaluate various rendering packages, build a data processing pipeline, and integrate the technology with an existing imaging platform.

DESIGN STUDIO | IDENFI
FISERV
Research, design, and prototype capabilities for banks to use mobile steakout input devices — specifically Microsoft Kinect for Windows v2 — to optimize branch processes and improve the overall customer experience. Implement a proof of concept application to demonstrate accurate reading of analysis algorithms.

DESIGN STUDIO | LABFRAME™ SOFTWARE
LI-COR
Develop a first-generation digital solution using web technologies that will provide professionals with a tool that can easily import, manipulate, and visualize multiple digital sources into a cohesive report.

DS & LAB | CLOUD ANALYTICS PLATFORM
LI-COR
Build a base white-label mobile analytics platform to integrate with a cloud-based ad network ecosystem and incorporate an application independent analytics engine to provide greater insight into the profitability of placed ads.

DESIGN STUDIO | HEURISTIC MODEL FOR DATA CLEANING
MUTUAL OF OMAHA
Create a technology solution that utilizes a heuristic model to inspect files, identify classes of information that exist within the digital content, redacting and anonymizing the associated data, and providing reports based on the identification and removal of the classes of information.

DESIGN STUDIO | WARNORDBOARD: DIGITAL SCHEDULE CREATION AND MANAGEMENT
WESTSIDE COMMUNITY SCHOOLS
Develop a web-based application to allow counselors and administrators at Omaha Westside High School in developing modular schedules for courses, rooms, students, and teachers. Develop project stretch goals for a broader student information system that gives students access to schedule changes, a learner profile, and other resources.

DESIGN STUDIO | ANALYZING BEHAVIOR IN MEDICAL SPACES USING SENSOR NETWORKS
HDR
Develop a deployment model for sensors to capture data from physical spaces that might be used to better understand the behavior of individuals in the space and create web tools to visualize information generated from collected data.

LAB | BIOMEDICAL OF HUMAN
NH SEPA / UNIVERSITY OF NEBRASKA
Work with a team of curriculum developers to create a digital graphical novel and related activities for Post to teach middle school students about the human body.

LAB | ANDROID MALWARE REPOSITORY
UNL COMPUTER SCIENCE & ENGINEERING
Develop a repository of techniques and tools to detect malware applications running on Android devices and evaluate the efficacy of detection models and implement improvements.

LAB | VIRTUAL FOOD DESIGN
UNL FOOD SCIENCE & TECHNOLOGY
Develop an easy-to-use simulation environment that allows food processing companies to design microfluidic food systems using a systematic and rational approach to shorten product development cycles, reduce cost, and deliver a high-quality and safe product to consumers.

LAB | AGSIM WEFY
UNL AGRONOMY AND HORTICULTURE
Develop mobile apps to simulate environment that enables food processing companies to design microfluidic food systems using a systematic and rational approach to shorten product development cycles, reduce cost, and deliver a high-quality and safe product to consumers.

LAB | NEBRASKA FOREST SERVICE
NEBRASKA FOREST SERVICE
Develop a mobile phone application to provide NFS with up-to-date location information of contracted aviation resources to assist with wildfire suppression.
Over the last several years, companies have experienced a shift toward a mobile work environment; and Design Studio students are no exception.

With the need to access information, validate development, and collaborate, the Design Studio team has adopted a mobile environment for project management, development, and production.

“Because many student teams perform work at their clients’ offices and validate solutions with end-users at different locations, we’ve equipped the product managers with a Microsoft Surface tablet that functions as both a productivity tool and a development device,” says Zach Christensen, Design Studio Development Manager.

“This device, coupled with cloud technology, enables students to have access to real-time information wherever they go, at a level that’s more powerful than an iPad or Android tablet.”

Proud with the challenge of developing an application that could serve as a “golf coach in your pocket,” the student team developing the Hudl Swing Coach has seen firsthand the benefits of this approach.

“When you’re developing software, you have to be able to put yourself in the user’s shoes, in their environment, which for us happened to be a golf course,” says Derek Nordgren, development manager for Hudl Swing Coach.

“We were able to take everything with us, and have access to all of our information through the Microsoft Surface tablet and a few other devices. This made it possible for us to test, validate, and even fix issues in the field.”

It has also provided David Dropinski, development manager for Together Clinic, and his team with the opportunity to travel to the hospital and other locations to meet with the physicians who co-founded the application.

“If we uncovered an issue during the meeting, we were able to dive right into the code and explore the items that we needed to address,” he says.

Design Studio plans to continue this shift toward a mobile environment, increasing the number of Surface tablets available for students.

“Efficiency and collaboration in the cloud

Business today is done in the cloud, which is now a critical piece of the Design Studio infrastructure.

“By moving to a cloud environment, we’re exposing the students to the technology they’ll use in major corporations and startup scenarios,” says Ian Cottingham, Associate Director for Design Studio. “Plus, it’s more cost effective than the alternative, allowing us to divert resources directly to student engagement and hardware like the Surface tablets.”

Together Clinic and the City of Lincoln were two Design Studio projects this year that had existing users, resulting in the support of a live environment. By leveraging the cloud, these teams have been able to utilize real-time staging environments to tweak and adjust their software before pushing out new releases.

The move to the cloud has also increased staff and student efficiency. Rather than passing files and information back and forth, or having to move information from one machine to another, students access everything they need through cloud-available services ranging from file sharing to real-time collaboration.

“Rather than spending faculty and staff time on IT support, the cloud enables us give these tools to the students,” says Jeremy Saing, Design Studio Project Manager.

“Businesses today is done in the cloud, which is now a critical piece of the Design Studio infrastructure.”

“By moving to a cloud environment, we’re exposing the students to the technology they’ll use in major corporations and startup scenarios,” says Ian Cottingham, Associate Director for Design Studio. “Plus, it’s more cost effective than the alternative, allowing us to divert resources directly to student engagement and hardware like the Surface tablets.”

Together Clinic and the City of Lincoln were two Design Studio projects this year that had existing users, resulting in the support of a live environment. By leveraging the cloud, these teams have been able to utilize real-time staging environments to tweak and adjust their software before pushing out new releases.

The move to the cloud has also increased staff and student efficiency. Rather than passing files and information back and forth, or having to move information from one machine to another, students access everything they need through cloud-available services ranging from file sharing to real-time collaboration.

“Rather than spending faculty and staff time on IT support, the cloud enables us give these tools to the students,” says Jeremy Saing, Design Studio Project Manager.

“Businesses today is done in the cloud, which is now a critical piece of the Design Studio infrastructure.”

“By moving to a cloud environment, we’re exposing the students to the technology they’ll use in major corporations and startup scenarios,” says Ian Cottingham, Associate Director for Design Studio. “Plus, it’s more cost effective than the alternative, allowing us to divert resources directly to student engagement and hardware like the Surface tablets.”

Together Clinic and the City of Lincoln were two Design Studio projects this year that had existing users, resulting in the support of a live environment. By leveraging the cloud, these teams have been able to utilize real-time staging environments to tweak and adjust their software before pushing out new releases.

The move to the cloud has also increased staff and student efficiency. Rather than passing files and information back and forth, or having to move information from one machine to another, students access everything they need through cloud-available services ranging from file sharing to real-time collaboration.

“Rather than spending faculty and staff time on IT support, the cloud enables us give these tools to the students,” says Jeremy Saing, Design Studio Project Manager.
The interior of Kauffman will undergo exciting changes in 2015.

“Our vision is to create a progressive environment that is intentionally designed for collaboration, with flexibility for a number of student work scenarios,” says Ian Cottingham, Associate Director for Design Studio.

With an increasing number of students involved in Design Studio, Cottingham says the team rooms are at capacity and need more space to grow. As a result, the Raikes School will be renovating the commercial kitchen located on the first floor of Kauffman.

“We don’t currently utilize the kitchen as it was originally intended,” says Cottingham. “So, rather than having it sit empty, we decided to repurpose the space.”

The plans feature a design-thinking inspired layout, utilizing modern furniture and light fixtures. With an eye on flexibility, the Design Studio team wants to create a space that feels less like a classroom and more like a Silicon Valley startup. Longer tables, bigger screens, multiple docking stations, and walls of white boards will make it possible for teams to share ideas and develop solutions.

“This space will mirror the type of teamwork, development, and production that exists in a real-world environment,” says Jeremy Suing, Design Studio Project Manager. “Students can come together to address issues, brainstorm ideas, or simply meet with a sponsor.”

The renovated space will also include video conferencing rooms, empowering students to effectively communicate and manage projects regardless of geographic location.

With this resource available, capstone students from the Department of Computer Science and Engineering will be able to work on their projects in Kauffman, where they will be in close proximity to Design Studio faculty and staff.

Construction is scheduled to begin July 1, and will be completed by November 2015.

The Numbers Behind Design Studio

The numbers behind Design Studio projects for 65 sponsors since 2001:

- 139 projects
- 5 faculty
- 6 lab
- 8 students
- 12 second semester
- 13 women
- 22 associates
- 31 second year students
- 40 first year students
- 42 ranks students
- 108 total students

The Startup Environment to Kauffman

The renovated space will also include video conferencing rooms, empowering students to effectively communicate and manage projects regardless of geographic location.

With this resource available, capstone students from the Department of Computer Science and Engineering will be able to work on their projects in Kauffman, where they will be in close proximity to Design Studio faculty and staff.

The renovated space will also include video conferencing rooms, empowering students to effectively communicate and manage projects regardless of geographic location.

With this resource available, capstone students from the Department of Computer Science and Engineering will be able to work on their projects in Kauffman, where they will be in close proximity to Design Studio faculty and staff.

Construction is scheduled to begin July 1, and will be completed by November 2015.

The Startup Environment to Kauffman

The renovated space will also include video conferencing rooms, empowering students to effectively communicate and manage projects regardless of geographic location.

With this resource available, capstone students from the Department of Computer Science and Engineering will be able to work on their projects in Kauffman, where they will be in close proximity to Design Studio faculty and staff.

Construction is scheduled to begin July 1, and will be completed by November 2015.

The Startup Environment to Kauffman

The renovated space will also include video conferencing rooms, empowering students to effectively communicate and manage projects regardless of geographic location.

With this resource available, capstone students from the Department of Computer Science and Engineering will be able to work on their projects in Kauffman, where they will be in close proximity to Design Studio faculty and staff.

Construction is scheduled to begin July 1, and will be completed by November 2015.

The Startup Environment to Kauffman

The renovated space will also include video conferencing rooms, empowering students to effectively communicate and manage projects regardless of geographic location.

With this resource available, capstone students from the Department of Computer Science and Engineering will be able to work on their projects in Kauffman, where they will be in close proximity to Design Studio faculty and staff.

Construction is scheduled to begin July 1, and will be completed by November 2015.

The Startup Environment to Kauffman

The renovated space will also include video conferencing rooms, empowering students to effectively communicate and manage projects regardless of geographic location.

With this resource available, capstone students from the Department of Computer Science and Engineering will be able to work on their projects in Kauffman, where they will be in close proximity to Design Studio faculty and staff.

Construction is scheduled to begin July 1, and will be completed by November 2015.

The Startup Environment to Kauffman

The renovated space will also include video conferencing rooms, empowering students to effectively communicate and manage projects regardless of geographic location.

With this resource available, capstone students from the Department of Computer Science and Engineering will be able to work on their projects in Kauffman, where they will be in close proximity to Design Studio faculty and staff.

Construction is scheduled to begin July 1, and will be completed by November 2015.

The Startup Environment to Kauffman

The renovated space will also include video conferencing rooms, empowering students to effectively communicate and manage projects regardless of geographic location.

With this resource available, capstone students from the Department of Computer Science and Engineering will be able to work on their projects in Kauffman, where they will be in close proximity to Design Studio faculty and staff.

Construction is scheduled to begin July 1, and will be completed by November 2015.
When I went through the Design Studio process many years ago, we did not have the coaching program as well defined," says Bauer. "I’m excited to come back and help teams through specific problems, providing encouragement and connections along the way."

The role of a coach has been an important part of the learning process for thousands of years. But it’s been one that’s often missing in the world of academia.

“A lot of industries are beginning to adopt this idea of apprenticeship learning, utilizing a master to show and guide an apprentice along the way. All of the great artists were an apprentice to another artist at some point,” says Jeremy Suing, Design Studio Project Manager. “By bringing in coaches who are also leaders and experts within the industry, we’re able to better connect students with ideas and methodologies from the real-world.”

In the last few years, Design Studio has formalized the role of the coach, assigning one to each student team for the course of the Design Studio year.

Coaches complete a short orientation with students in August. From there, the meeting schedule varies based on needs. Many times, the coach will have technical expertise as a software developer so he or she can lend their expertise regarding software architecture, design, and deployment. Other times, coaches have been involved as project managers in larger corporations or startups, and their expertise helps students with communicating project details, delivering results, and managing expectations.

As a coach for the Omaha Westside Schools project, Bauer has been a sounding board for the students. Working on a web-based application for modular scheduling, students looked to Bauer to help them clarify exactly what the sponsor was looking for, project requirements and scope of work.

“When you’re a college student, you may get an assignment on the first day of class, and then work all semester to turn in the assignment just as it appeared on the syllabus,” Bauer explains. "But that’s not how the real world works. Projects change, clients change their mind, and systems change. We’re there to help students navigate this process in Design Studio. Plus, the small pivots made throughout the course of the semester often result in a much better outcome.”

In years past, students may have been nervous to talk to faculty and staff about project challenges, for fear of it affecting their grade. Industry coaches serve as a neutral third-party that students can utilize to share ideas, solve problems, and gather feedback that is critical to their learning and development.

Software developer Nick Ebert also graduated from the Raikes School and now serves as a coach for Design Studio. This year his efforts went toward supporting the Fiserv project. He notes how important it was for the students to learn that they can “throw things away” throughout the course of the project.

“Refactoring is an important part of good software development,” he says. “Pivoting the students hear this from a coach is encouraging since I face this on a regular basis in my job. Students realize how to pivot and learn from their efforts, often starting over to build something better.”

Coaches benefit from the relationship as well. In addition to enhancing the learning process, many have said they enjoy the energy and excitement that comes from working with such a skilled and ambitious group of students.
STUDENTS

Blake Adams  
Daniel Adams  
Kaila Anderson  
Jacob Armstrong  
Gregory Aklin  
Alexandra Altimir  
Jason Bach  
Evan Bachi  
Code Bokiel  
Chris Block  
Kathleen蛔hel  
Kaitlin Brady  
Code Brown  
Jordan Brown  
Lynnea Bush  
Osian Carlson  
Xi Chen  
Brandon Collins  
Cameron Crockett  
Christopher Dahlman  
Rachel Dahlman  
Nathan DeMaria  
Steven Doskey  
Michael Dratch  
David Dropinski  
Ryan Endmann  
Ryan Eures  
Sarah Fanning  
Andrew Foppiani  
Bryan Fowler  
Cotton Franco  
Cowey Serrano  

Jeremiah Everitt  
Davi Grilich  
Joshua Grossman  
Nicholas Hartiff  
Chase Hebe  
Jacob Hedik  
Michael Holman  
Sayan Jaga  
Damen Johnson  
Scott Johnson  
Kevrin Jarzanski  
Woj Kojmen  
Matthew Koller  
Jacob Konya  
Nathan K Lip  
Rex Klinkworth  
Shawn Lambi  
Spencer Lambi  
Drake Lane  
Yan Xie Liu  
Matthew Loi  
John Lu  
Patrick Ludy  
Jimmy Lee  
Cassondra Lowtry  
Joseph Lucke  
Michael Marko  
Andrew McDaniel  
James McPhail  
Eli McNeil  
Jordie Mocikov  
Oscar Montoya  

David Monz  
Tracy Moody  
Nicholas Miller  
Calie Noaman  
Devids Noriega  
Madelyn Peterson  
Trevor Piippo  
Lewis Miranda  
Paul Puslir  
Michael Rawillie  
Matthew Rieves  
Kathrina Riekk  
Philip Rognan  
Kevin Rock  
Steven Schindler  
Zith Schonker  
Evan Schirle  
David Shih  
Dewitt Simpson  
Brandon Smith  
Brandon Smith  
Ibad Svaner  
Tjek Steiner  
Nicholas Swanson  
Andrea Uher  
Anthony Vicente  
Gilbert Welt  
Hongxun Xia  
Yuen Yang  
Lynne Zhang  
Tjek Zakle  

At the Raikes School, an industry-focused curriculum is imperative for student success.

By integrating agile engineering processes, lean business development, and interdisciplinary design thinking, students gain experience with a variety of concepts and technologies used in Silicon Valley and other tech-driven environments.

“When companies hire software developers, they need them to hit the ground running,” explains Doug Durham, software engineer and adjunct professor at the Raikes School. “The Raikes School has made it a priority for students to gain practical knowledge that familiarizes them with the way the world works when they graduate.”

As the Director of Research for Design Studio, Ashu Guru helps students learn how to identify the right tools and strategies needed to develop solutions regardless of domain.

In his classes, Guru covers topics such as relational database models and methodologies to handle large amounts of data, such as map-reduce, distributed file systems, NoSQL databases, and graph databases. Students are provided with opportunities to make contextual decisions, a skill that will prove invaluable in their careers.

Students are also given the opportunity to learn from industry contributors like Tom Seevers, an IBM Fellow and visiting professor at the Raikes School. Seevers has helped students better understand software architecture and how to test the viability of their design.

“When we were studying software development and design methods, my team was trying to figure out how to structure our application so it could scale for thousands of users,” says David Dropinski, development manager for Together Clinic. “It was great to see this curriculum in action.”

Additional learning opportunities are offered in conference-style schedules, allowing students to pursue knowledge in areas that pertain to their specific projects and/or interests.

DESIGN STUDIO CURRICULUM:
BRINGING THE CLASSROOM TO LIFE

RAIKES SCHOOL FACULTY AND STAFF
ZACH CHRISTENSEN  
Design Studio Development Manager  
IAN COTTINGHAM  
Associate Director for Design Studio  
DOUG DURHAM  
Adjunct Associate Professor  
ASHU GURU  
Design Studio Director of Research  
AMANDA LEINGANG  
Operations Manager  
TOM SEEVERS  
IBM Fellow and Visiting Professor  
JEREMY SUING  
Design Studio Project Manager  
COMPUTER SCIENCE AND ENGINEERING FACULTY
YING LU  
Associate Professor  
WITTY SRIGA-AN  
Associate Professor

COURSE AT A GLANCE

DESIGN STUDIO I  
DEVELOPMENT OPERATIONS

DESIGN STUDIO II  
SOFTWARE ARCHITECTURE AND DESIGN

DESIGN STUDIO III  
LEADING PRODUCT DEVELOPMENT TEAMS

DESIGN STUDIO IV  
DATA-DRIVEN DEVELOPMENT METHODS

2015 DESIGN STUDIO ANNUAL REPORT  
RAIKES SCHOOL
It is the policy of the University of Nebraska–Lincoln not to discriminate based upon age, race, ethnicity, color, national origin, gender-identity, sex, pregnancy, disability, sexual orientation, genetic information, veteran’s status, marital status, religion or political affiliation.