



MI 488/IAH 205: Information and Communication Technology Development Project | *Integrating African Perspectives into Technology Development and Design*

Spring 2024 | Friday 10:20 am to 1:10 pm Location: Wonders Hall C215

Revised March 1, 2024

Instructors:

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Course Description, Highlights, and Goals

MI 488 is a course that merges topics from the fields of Human-Computer Interaction (HCI) with topics from African studies. Students will explore how African history, culture, decolonial theory, ethics, multilingualism, and related topics can inform their understanding of the use and design of technology (both analogue and digital). We will primarily explore these topics within the Kenyan context. Students will also learn from and collaborate with *Technologists-in-Residence* (TIR). These are students from Kenya's Egerton University, who will participate virtually in the course and mentor small student groups. A significant portion of the course involves working in these small groups and applying the Human-Centered Design (HCD) process to developing design solutions to global challenges (resource exploitation, food production, misinformation, youth unemployment, etc.). Groups will work virtually with Kenyan designers to develop prototypes of these design solutions. At the end-of-semester, these groups will participate in a campus wide event where they will showcase their projects. TIRs will attend this event in-person. This course is funded by a generous award from the Mozilla Foundation's *Responsible Computing Program*.

Course Highlights

- Engage in radically interdisciplinary learning by applying topics from African Studies to technology design.
- Learn from and collaborate with Kenyan students (TIRS), guest speakers, and technology designers.
- Learn from Dr. Choti's firsthand experiences (as they relate to course topics).

- Collaborate with Kenyan designers to develop low-fidelity prototypes of your design solutions.
- Present your projects to peers, faculty, and administrators at an end-of-semester event.

Learning Goals

- Explain how technical, economic, historical, and social factors impact design projects' success and/or failure in Kenya and elsewhere.
- Identify a global challenge and work towards collaboratively developing a possible technical solution to it.
- Learn about and critically apply human-centered design methods (e.g., user research, sketching, prototyping, and critique)
- Participate in communication and collaboration across multiple disciplines and cultures.
- Gain an understanding of global issues and their interconnectedness, especially as they relate to technology design.
- Develop the ability to write about and present your design process.

These goals will be met through a combination of reading, lectures, discussions, writing assignments, presentations, and completing a design project. During the first half of the semester, we will primarily focus on reading articles, writing about them, and discussing their content. Later in the semester, we will devote a significant amount of time to working on the group design projects.

Source Materials

No textbook is required for this class. Course readings will be posted as PDFs or weblinks on D2L. Each group will have a \$500 budget to support their project. We anticipate groups using these funds to buy materials and to compensate the Kenyan designers for their work.

Assessment (250 total points)

You will be assessed, and your grades based on your performance in three areas, i.e., Class Participation, Reading Responses, Short Assignments, and a Design Project (250 points total).

1. Class Participation (30 points)

Most classes will be run as guided discussions, with class time spent reviewing and discussing the assigned readings, as well as engaging with guest lecturers, especially during the first half of the semester. Students will be called on to answer questions and/or provide comments. To offer quality responses, it will be important for you to have read the assigned readings. We also expect students to engage with guest speakers, by asking them thoughtful questions. Later in the semester, you will also be encouraged to critique your classmates' design sketches and prototypes. Class participation will be measured by active and productive involvement in discussions.

2. Reading Responses (50 points)

Class readings are an important part of the course; you are expected to read and write about them. Approximately 20-25 pages of reading will be assigned every week (primarily during the first half of the semester). All the readings are posted on D2L. Weblinks to some articles are included in the syllabus. During this period, you will submit five write-ups based on the course readings; this means you will be expected to submit a response for 5/6 weeks. In other words, you can choose *not* to submit a response one week. The goals are for you to read and understand the materials. Each response is expected to be between 700-750 words. Please upload your essay to D2L and ensure that your name is on it. These responses will be graded on a 10-point scale (10 = A+ and 1 = F). Students are responsible for reading the assigned texts, even if they do not do the write-up for that week.

When preparing your write-ups, please consider answering these questions:

- What is the author's main point?

- Who is the author? What is their background? What biases might they have?
- What is especially interesting to you in the reading and why?
- Is there anything specific in the reading that you disagree with or aren't convinced of, and if so, why?
- What other reading(s) (from this class) does the reading relate to, and how?

3. Short Assignments (20 points)

You will also complete two short assignments over the course of the semester. Details about these assignments will be provided to you before they are due. You can find this information on D2L. Please upload your assignments to D2L prior to class.

- Short Assignment #1: What does the word “Africa” bring to mind? (10 points; due January 21).
- Short Assignment #2: Identify A Field Site and Writing Fieldnotes¹ (10 points; due February 15).

4. HCD Design Project: Identifying a Design Problem, Ideation, Sketching, Prototyping, Poster Presentation, and Final Report (150 points)

Following Spring Break, students will draw from the readings, class discussions, assignments, and conversations with TIR and guest lecturers to identify a design problem. Then, they will use the HCD process to explore possible technical solutions to this design problem. Groups will work with *TIR* to develop a “design brief” to share with the Kenyan designers. Next, student groups will collaborate with these designers to develop a high-fidelity prototype that effectively communicates their design concept and how it can possibly address the chosen problem. This process will require meeting with the Kenyan designers at least once (via Zoom). Groups will document their design process and it will be incorporated into an end of the semester final report and presentation. Please upload your assignments to D2L prior to class, unless otherwise noted. We will constitute eight groups of 6-7 students each.

This assessment will involve six assignments, including a final report:

- Design Project Assignment #1: Identifying a Design Problem/Conducting Background Research (25 points; due March 8).
- Design Project Assignment #2: Brainstorming Concepts and Design Sketches (20 points; due **March 15**).
- Design Project Assignment #3: Developing Low-Fidelity Prototype (15 points; due **March 22**).
- Design Project Assignment #4: Developing a Design Brief (30 points; due **March 29**).
- Design Project Assignment #5: Preparing a Poster (10 points total; draft Due April 12); Final Poster (15 points; due April 19).
- Design Project Assignment #6: Writing a Final Report (35 points; due April 26 by 5:00pm).

Grading Scheme (out of 250 points)

Your grade will be determined using the scale provided below:

Letter grade	Score	GPA		Letter grade	Score	GPA
A+/A	93-100	4.0		C/C-	70-76	2.0
A-/B+	87-92	3.5		D+	67-69	1.5
B/B-	80-86	3.0		D/D-	60-66	1.0
C+	77-79	2.5		F	59-0	0

Grading Standards

All assignments will be judged for their sophistication, professionalism, and command of course concepts.

¹ The field note component of this assignment will be completed during class.

- “A” assignment: demonstrates a mastery of ideas and their application; creativity, rigor, and sophisticated thinking; are well-written and represent the best of the class’s work.
- “B” assignments show a good understanding of concepts; employ relevant examples; contain some grammatical errors; and represent work that adequately communicates a student’s point of view.
- “C” assignments show a minimally adequate understanding of concepts; lack relevant examples; have many grammatical errors; and demonstrate work that is incomplete.
- “D” assignments are barely adequate and represent work that requires significant improvement.
- “F” assignments fail to meet the assignment criteria, are late, poorly written, and generally do not meet the standards of quality MSU students are expected to meet.

Course Policies

1. Revising syllabus

This syllabus is a guide for us; we may modify it to adapt to what is happening in the classroom. However, we will never make an assignment due earlier, but sometimes we may make an assignment due later. We might add a reading that supports students’ interests, or answers questions raised in class.

2. Attendance policy

Class meets once a week; therefore, it is important that you attend each class meeting. Attendance is defined as physical attendance and participation in class. Note that class attendance is required. More than one unexcused absence will cause your grade to be lowered a third of a letter grade for each occurrence (e.g., two missed classes would change a B to a B-, three missed classes would change a B to a C+). Excusable absences include family emergencies, illnesses, conferences, and job interviews. Please send us an email-as soon as possible-if you are unable to attend class. You must make up missed work during your absence. If you are running late to class, it is okay to attend part of the class meeting.

3. Assignment deadlines

In general, assignments are due before class and no late assignments will be accepted. However, if you are unable to submit an assignment (e.g., because you are sick) please contact the instructors prior to the assignment’s due date. Unless you are told otherwise, please upload your assignments to D2L under Assessments/Assignments.

4. Artificial Intelligence (AI)

In this class, you are welcome and encouraged to use AI platform (e.g., ChatGPT) **only** for pre-writing, brainstorming, and locating sources unless otherwise specified in assignment instructions. You should not use AI to produce your assignments or otherwise perform tasks that you are expected to be able to do or learn how to do on your own. In short, ChatGPT is not taking this course-you are. You are here to learn, not to do a less-than-thorough or incomplete job. Please take that responsibility seriously.

This text was borrowed from: Faber, Dr. Liz W. [@LizWFab]. “For those of you asking/wondering, here is the AI statement I’ll be including on my Fall syllabi:” X, 3 August 2023, <https://twitter.com/LizWFab/status/1687176192879693826>.

5. Plagiarism

All work presented in this class must be the product of your own effort. Your work should not be copied without appropriate citation from any source, including the Internet. Any student caught presenting work which is not their own will face disciplinary action, which may include a failing grade for the assignment, receiving a failing grade for the class, or being expelled from the university. This policy applies to all work submitted, either oral or written. If you have any questions about the meaning of plagiarism or whether a particular instance constitutes plagiarism, please ask your instructors.

6. Student Perceptions of Learning Survey (SPLS)

MSU uses the Student Perceptions of Learning Survey (SPLS) to collect student feedback on courses and instruction. SPLS forms will be available for students to submit feedback within a period of 5 calendar days at the end of the semester. The rationale for the survey is to help instructors improve their teaching and responses are anonymous and delayed until after final grades are submitted as a safeguard to protect students. Please complete the survey promptly. The survey is available to you multiple ways: a) an email is sent to every enrolled student with instructions and a personalized, direct link to the survey, b) students can access the survey via a pop-up reminder within D2L, and c) you can access the survey at this link <https://msu.bluera.com/msu/>

Tentative Course Schedule

This schedule is a guide for the course and is subject to change with advance notice. Sometimes, we make mistakes on the syllabus. If you see one, please tell us! Readings are posted on D2L.

Date	Topic	Readings/Activities/Guiding Question(s)/Assignments
January 12 <i>Week 1</i>	Introductions, Syllabus Review, and Writing about Africa.	<p>Prior to class, students will be expected to have read these short articles:</p> <p>a) Nanjira (2015). On Writing about Tech in Africa. Medium. <i>Available online:</i> https://medium.com/@ninanjira/on-writing-about-tech-in-africa-c63ffe9f499d#.ps9eqtdys</p> <p>b) Wainaina, B. (2005). How to write about Africa. <i>Available online:</i> //moodle.swarthmore.edu/pluginfile.php/47118/mod_resource/content/0/Binyavanga-how_to_write_about_Africa-2.pdf</p> <p><i>Instructor and student introductions; review syllabus (assignments, grading, etc.); discuss interdisciplinary nature of course and expectations, etc.; we will also introduce the Technologists-in-Residence (TIR) team; they will join the class via Zoom.</i></p> <p>Guiding questions:</p> <ul style="list-style-type: none"> • What are your expectations for this course? • What are the benefits and possible challenges of teaching a course with students from different majors? • What does interdisciplinary mean to you? • What are your takeaways from the two articles above (a-b)? <p>Order lunch for 19th class meeting from Tatse Restaurant, Lansing: https://www.facebook.com/tatserestaurants/</p> <p>Distribute Short Assignment #1: <i>What does the word "Africa" bring to mind?</i> Due January 19 (upload response to D2L)</p>
January 19 <i>Week 2</i>	Introduction to Africa, Technology, Innovation,	<p>Prior to class, students will be expected to have read these articles:</p> <p>a) Mavhunga, C. C. (2017). Introduction. In <i>What do science, technology, and innovation mean from Africa?</i> Edited by Clapperton Chakanetsa Mavhunga. MIT Press (pages 1-5).</p>

	<p>Geography of Africa Establish Groups*</p>	<p>b) Delehanty, J. (2014). Africa: A Geographic Frame. In <i>Africa</i>, edited by Grosz-Ngaté, Maria, Hanson, John H., O'Meara, Patrick. Indiana University Press (pages 7-32).</p> <p>Guest Speaker (in-person): Mary Njeri Karanu, Program Officer, Rural Outreach Africa, Kenya.</p> <p>Lunch from Tatse Restaurant: https://www.facebook.com/tatserestaurants/</p> <p><i>Discuss assignments and readings; Choti's personal experience; Q&A with Mary Karanu; Establish groups (8 groups of 6-7 students) and assign TIR mentors.</i></p> <p>Guiding questions:</p> <ul style="list-style-type: none"> • What do science, technology, and innovation mean from Africa? • How has the practice of farming in Kenya evolved over the years, and what impact have modern agricultural techniques and technologies had on the country's agricultural landscape? • How does Africa's geography affect activities on the continent? <p>Short Assignment #1 DUE (upload response to D2L)</p>
<p>January 26 Week 3</p>	<p>Livelihoods and Technology in Africa</p>	<p>Prior to class, students will be expected to have read these two articles:</p> <p>a) Clark, G. and Wiley, K. (2014). Making a Living: African Livelihoods. In <i>Africa</i>, edited by Grosz-Ngaté, Maria, Hanson, John H., O'Meara, Patrick. Indiana University Press (pages 7-32).</p> <p>b) Olopade, Dayo. (2014) "Kanju: The Fine Line Between Genius and Crime." <i>The bright continent: Breaking rules & making change in modern Africa</i>. Houghton Mifflin Harcourt, NY (pages 16-23).</p> <p><i>Discuss readings; watch and discuss Shamba Shape Up video clip. Dr. Wyche will share examples of kanju.</i></p> <p>Guiding questions:</p> <ul style="list-style-type: none"> • What is kanju? Provide examples from the Olopade's reading and from your own experience/society. • What is Shamba Shape Up? Why is it novel? • How can technology provide livelihood strategies for Kenyans?
<p>February 2 Week 4</p>	<p>Technology in Kenya: Focus on Mobile Phones</p>	<p>Prior to class, students will be expected to have read these articles:</p> <p>a) Nyabola, N. (2020). "Small Act of Resistance," in <i>Travelling While Black: Essays Inspired by a Life on the Move</i>. Oxford University Press. (pages 175-183).</p> <p>b) Komen, L. J., & Ling, R. (2022). 'NO! We don't have a joint account': mobile telephony, mBanking, and gender inequality in the lives of married</p>

*Groups may change as the semester progresses.

		<p>women in western rural Kenya. <i>Information, Communication & Society</i>, 25(14), (pages 2083-2100).</p> <p>Guest Speaker (via Zoom): Dr. Leah Komen, Senior Lecturer, School of Communication, Daystar University, Nairobi, Kenya.</p> <p><i>Discuss readings; Choti's personal experience; Q&A with Dr. Komen</i></p> <p>Guiding questions:</p> <ul style="list-style-type: none"> •How does the usage of mobile phones differ between men and women in Kenya, and what societal factors contribute to these differences? • What are the main takeaways from Nyabola's article, "Small Act of Resistance"?
February 9 Week 5	Introduction to Human-Centered Design (HCD)	<p>Prior to class, students will be expected to have read these articles:</p> <p>a) Ambole, A. (2020). Rethinking design making and design thinking in Africa. <i>Design and Culture</i>, 12(3), (pages 331-350).</p> <p>b) YUX (2022). State of User Research in Africa, <i>Available online (also on D2L)(this is an image-heavy report):</i> https://yux.design/studies/state-user-research-africa-2022#study-report</p> <p>Guest Speaker (via Zoom): Dr. Amollo Ambole, Big Win Philanthropy</p> <p><i>Discuss readings; Lecture about HCD and design ethnography; Dr. Wyche will talk about her research; Choti's personal experience; Q&A with Dr. Ambole. Talk about choosing field sites for next week's class in 360 Digital Lab in main Library.</i></p> <p>Guiding questions:</p> <ul style="list-style-type: none"> •What are the main ideas in Ambole's article regarding design thinking and culture in Kenya? How could you put them into practice in your project in this course? •What did you learn about user research in the YUX report? In particular, what is the role of ethics in research? <p>Distribute Short Assignment #2: <i>Virtual Ethnography: Identify A Field Site and Take Fieldnotes.</i> Due February 16 (upload assignment to D2L)</p>
February 16 Week 6	Virtual Fieldwork in the Library	<p>Class will meet in the Main Library's 360 Digital Scholarship Lab (Floor 2, West).</p> <p><i>Short lecture on conducting ethnographic study and taking field notes. Students will "visit" their field sites and take fieldnotes. Students will also meet with Erik Ponder (African Studies Librarian) to discuss how to conduct background research for their design projects (TBD).</i></p> <p>Guiding questions:</p>

		<ul style="list-style-type: none"> • In what ways can conducting design research in Africa differ from research in other parts of the world? How might these differences influence design outcomes (e.g., the problems you address)? • How can your findings from your fieldwork help inform your design process? <p>Distribute Group Design Project Assignment #1: <i>Identifying a Design Problem/Conducting Background Research</i>. Due March 8 (upload assignment to D2L)</p> <p>Short Assignment #2 DUE (upload assignment to D2L) Note: you will submit this assignment's fieldnote component at the end of class.</p>
February 23 Week 7	Multilingualism in Media and Technology use	<p>Prior to class, students will be expected to have read these articles:</p> <p>a) Myers-Scotton, Carol (1993). <i>Social motivations for codeswitching: Evidence from Africa</i> (chapter 2: The African Setting). Oxford University Press, 1993 (pages 9-43).</p> <p>b) Nyabola, N. (2021). "What Will Be the Language of Our Digital Future?" <i>The Nation</i>. July 15, 2021. Available online: https://www.thenation.com/article/society/digital-rights-language-technology/</p> <p>Guest Speaker (via phone)(tentative): Dr. Carol Myers-Scotton, former MSU Professor</p> <p><i>Discuss readings. TIR will give presentations about their design projects and discuss possible design ideas. Q&A with Dr. Myers-Scotton. Discuss your group assignments; in particular, how to identify electronic scholarly articles related to your design problem.</i></p> <p>Guiding questions:</p> <ul style="list-style-type: none"> • What is code-switching? How might this concept shape the design of information communication technologies (e.g., social media)? • What are the implications of an English being the "default language"?
March 1	<p>No class : Enjoy Spring Break! <i>Please think about potential design projects over the break!</i></p>	
March 8 Week 8	<p>HCD: Identifying a Design Problem and Decolonizing Design</p> <p>HCD: Ideation, Brainstorming, and Sketching</p> <p>Begin HCD Design Projects</p>	<p>Prior to class, students will be expected to have read these articles:</p> <p>a) Tunstall, E. D. (2023). <i>Decolonizing Design: A Cultural Justice Guidebook</i>. MIT Press, (pages 55-69). Note we will discuss this reading during class on March 8.</p> <p>b) Philip, Kavita, Lilly Irani, and Paul Dourish. (2012) "Postcolonial computing: A tactical survey." <i>Science, Technology, & Human Values</i> 37.1 (page 3-29). Note we will discuss this reading during class on March 15.</p>

		<p>Guest speaker-designer (via Zoom): Dr. Musa Njue, Egerton University</p> <p><i>Discuss readings and your first group assignment. Choti will share his perspective on colonialism. We will discuss design projects and establish teams Dr. Njue will talk about his design process.</i></p> <p>Group Design Project Assignment #1 DUE (upload assignment to D2L)</p> <p>Note: this is the last week to submit one of your five written responses.</p> <p>Distribute Group Design Project Assignment #2: Brainstorming Concepts and Design Sketches. Due March 15. (upload assignment to D2L, and bring your sketches to class)</p> <p>Guiding questions:</p> <ul style="list-style-type: none"> • What is “postcolonial computing” and why is it relevant to this class? • Carefully review Table 3.1 in the Tunstall reading and reflect on the “White Supremacy Culture Values” listed. How do these values shape design?
March 15 Week 9	HCD: Critique and Prototyping	<p><i>Lecture about prototyping techniques. Groups will present their design concepts and we will critique them. TIR will provide students with feedback about their design concepts. We will also continue our discussions about decolonizing design.</i></p> <p><i>Distribute consent forms, related to sharing design sketched and prototypes,</i></p> <p>Distribute Group Design Project Assignment #3: Developing Low-Fidelity Prototype. Due March 22 (bring you prototypes to class)</p> <p>Group Design Project Assignment #2 DUE Bring your sketches to class.</p>
March 22 Week 10	HCD: Developing a Design Brief; Design Critique	<p><i>We will discuss design projects; in particular, how to develop a budget and collaborate with Kenyan designers. Beverly Otieno will discuss her design process; students will also have time to work on their prototypes.</i></p> <p>Guest speaker-designer (via Zoom): Beverly Otieno, Bevtech Solutions</p> <p>Distribute Group Design Project Assignment #4: Developing a Design Brief. Due March 29 (upload to D2L)</p> <p>Group Design Project Assignment #3 DUE Bring prototypes to class.</p>
March 29 Week 11	HCD: Iterating on Your Design Concepts	<p><i>Groups will work on their design projects in collaboration with the Egerton students. They will also meet with the Kenyan design team.</i></p>

<p>April 5 Week 12</p>	<p>HCD: Evaluation and Preparing Posters</p>	<p><i>Lecture about evaluation and how to develop a poster. Kenyan designers will join the class via Zoom and talk to students about their design briefs.</i></p> <p>Distribute Group Design Project Assignment #5: Preparing a Poster. Draft Due April 12; Final Poster Due April 19</p> <p>Group Design Project Assignment #5 DUE <i>We will send your design briefs to the Kenyan designers.</i></p>
<p>April 12 Week 13</p>	<p>Finishing Projects</p>	<p><i>Review draft posters. If necessary, we will also meet virtually with the Kenyan designers to discuss group projects. Discuss final reports. Other activities TBD.</i></p> <p><i>Dr. Choti will distribute a short survey with questions about your experiences in the course.</i></p> <p>Distribute Group Design Project Assignment #6: Writing Your Final Report; Due April 26.</p>
<p>April 19 Week 14</p>	<p>Project Showcase</p>	<p>Class will meet in the International Center (Room 303) to prepare for the poster presentation.</p> <p><i>Student teams will present their projects to students, faculty, and administrators. We will ask participants to provide teams with feedback. Dr. Paul Kimurto (Egerton University) will speak at the event.</i></p>
<p>Final Reports Due Students to upload their final reports onto D2L by 5:00pm on April 26, 2024</p>		