



Challenge: “Create Phygital Connections That Matter”

OBJECTIVE:

In today's increasingly connected world, consumers expect more than products. They seek meaningful experiences, trusted information, personalized engagement, and greater transparency about the brands they support. Advances in NFC and RFID technologies create new opportunities to bridge the physical and digital worlds, enabling products and objects to become interactive touchpoints that connect consumers, brands, and information in innovative ways.

Your team is challenged to envision and design a forward-looking solution that leverages NFC or NFC/RFID dual-tagging technology to create seamless, value-added connections between products, consumers, and brands. Identify a real-world problem or opportunity and develop an innovative concept that enhances the consumer experience while delivering value to both consumers and organizations.

Your proposed solution should address one or more of the following goals:

- Enable intelligent and engaging consumer experiences
- Strengthen connections between consumers and brands
- Increase product authenticity and transparency and consumer trust
- Create new forms of interaction between physical products and digital services
- Promote sustainability and responsible consumption
- Deliver actionable insights that benefit consumers, brands, or society

PROCEDURE:

1. Form a team of 4 students and submit to Dr. Kwon (kwonwis@auburn.edu) your **team's name** and **the names of the team members by 5:00 pm, September 28, 2026** (Monday).
2. Attend all hackathon sessions as scheduled below:

	When	What	Where
Info Session	October 12, 12:00-12:50 p.m.	2026 iRACE Hackathon challenge and procedures & team building	1408 Haley
Hackathon Session 1	October 19, 12:00-12:50 p.m.	Learn about RFID technology	RFID Lab
Hackathon Session 2	October 26, 12:00-12:50 p.m.	Learn about NFC technology	1408 Haley
Hackathon Session 3	November 2, 12:00-12:50 p.m.	Hands-on workshop & ideation	1408 Haley
Hackathon Session 4	November 16, 12:00-12:50 p.m.	Present your team's solution.	via Zoom
Award Ceremony	November 30, 12:00 – 12:50 p.m.	Winner announcement & celebration	1408 Haley

3. Based on what you learned about NFC, RFID, and NFC/RFID Dual tagging technologies in Sessions 1, 2, and 3 of the Hackathon, each team identifies a potential **use case** for NFC or NFC/RFID Dual tags that can be employed in a consumer product or a service process to enhance consumer engagement and product and brand experience while improving transparency and sustainability of the business. The use case should clearly specify:
 - a. What consumer product brand or service organization could implement this NFC or NFC/RFID solution?
 - b. Where in the product or service material will NFC or NFC/RFID tags be implemented?
 - c. What will happen when consumers tap their phone on the tag? (also see #4 below)
 - d. What kinds of data will be collected from the tag and how will they help improve consumer engagement/experience and business transparency/sustainability?
4. For the identified use case, **design a sample digital asset** (e.g., a mobile site/app, a website, a multimedia file, a digital document) to which the NFC tag will direct the user when the user's smartphone reads the label.
 - If you want the NFC label/tag to direct the user to a webpage, you may want to create a sample webpage by using any free website builder application (e.g., Wix, WordPress, Adobe Spark).
 - If you want to link the NFC to a multimedia file (e.g., video), you may upload it on YouTube.
 - You may create any other forms of digital asset as long as it is accessible via the Internet.
 - **Generative AI use is NOT permitted during the ideation of the hackathon project, but AI can be used for the development of digital assets** (e.g., using AI to design a website, a video, or an image is permitted).
5. **Encode blank NFC labels** (provided in the Hackathon Technology Kit on Day 1) with the URL to the digital asset that you created.
 - See **"NFC encoding instructions" enclosed in the hackathon packet as well as on the last page of this document.**
 - Also, check out [the video tutorial of the NFC encoding process](#).
6. In Hackathon Session 4 (**November 16th**), deliver a **3-minute team presentation** (with PowerPoint slides). Include in the presentation:
 - Title Slide (Slide 1): Your team's use case title, team name, and names of the team members
 - Slide 2: Use Case Description (Which brand and which product or service materials are NFC or NFC/RFID dual tags going to be implemented? How will the tags be embedded in the product? Who are intended users/consumers of the product/service? What data will be collected from the tags?)
 - Slide 3: Demo of the NFC label use – You may use whatever approach that you think is best to demonstrate how the NFC label is used for your use case (e.g., a demo video, images, a live demo)
 - Slide 4: Value/Usefulness (i.e., How this use case and the data collected from the tags can benefit the brand and the user/consumer).
 - Slide 5: AI Disclosure (This slide is needed only if AI was used to develop the demo. Specify which AI tool was used for what purpose)

EVALUATION:

A panel of judges consisting of industry experts will score each team using the following **judging criteria**:

- **Creativity (5 points)**
 - **Innovativeness (5 points)**
 - **Value/Usefulness (5 points)**
 - **Tie Breaker: Wow factor (5 points)**
 - **A bonus point (1 point) will be added to a team which proposes a use case for NFC/RFID dual tags.**
- ❖ The team that receives the highest score from the industry judges will be the winning team. If more than one teams tie with the highest score, the team that received a higher score on the “Wow Factor” will win.

WHAT IF MY TEAM WINS:

- ❖ The **winning team and the runner-up team** will receive **certificates of achievement**.
- ❖ **Each member** of the 2026 iRACE Hackathon **winning team** will receive a **\$1,000 scholarship**.
- ❖ **Each member** of the **runner up team** will receive a **\$100 gift card**.

Appendix. NFC Encoding Instructions

NFC Encoding Instructions

iPhone

1. Install the “**NFC Tools**” app on your iPhone.



2. Open the **NFC Tools** app.
3. Select “**Write**”
4. Then select “**Add a Record**”
5. Select “**URL/URI**”
6. Now, enter the URL of your digital asset.
7. Select “**Write/20 Bytes**” under the “Write” section
8. Hold the NFC tag near the iPhone.
9. Wait for ✓

Android phone

1. Install the NFC Tools app on your Android phone.



2. Open the **NFC Tools** app.
3. Select “**Write**”
4. Then select “**Add a Record**”
5. Select “**URL/URI**”
6. Now, enter the URL of your digital asset > OK
7. Select “**Write/20 Bytes**” or “**Write/21 Bytes**” under the “Write” section
8. Hold the NFC tag near the phone.
9. “Write complete” > OK

NFC Encoding Video Tutorial

