

FALL 2024

Case Study: The ACME Visit! product

GENERAL INFORMATION

This document describes the “term-specific” part of your assignment. For details about logistics and delivery, please refer to the assignment description (and associated material) available on Avenue.

It is **intentionally brief, intentionally slightly ambiguous**, and is meant to allow you to try some of the techniques and methods you’ve learned in the course. **What matters most in doing the assignment is your explanation and justification, not whether you produce “the right answer”.** As with most software engineering problems, there is more than one good answer. We seek **well-justified sections** that, at the very least, correctly apply the methods, techniques and paradigms covered in lectures.

If you need clarification on the business domain, feel free to ask your question in the `#customer` channel on MS Teams.

This document is provided for pedagogical purposes and, as such, is freely inspired by real-life products. The objective is to confront students with real-life-like systems, even if this is “just” a one-term assignment.

CONTEXT

You are working for ACME (*A Company that Makes Everything*), as part of their IT department. You have been contacted by a client named *HammerCorp Inc.* to design and develop a new game they want to launch in Fall 2025 on the North American market. The code name of this project is **ACME VISIT**.

PRODUCT VISION: ACME VISIT!

In a world where history whispers through ancient stones and nature’s beauty lies waiting to be discovered, “**ACME Visit**” is born—a digital companion designed to transform how people explore the world around them. This app is not just a guide; it is an invitation to embark on an adventure where every step reveals a story, every turn uncovers a secret, and every destination rewards the curious.

Imagine strolling through Westfield Heritage Village, your phone in hand, not merely as a map but as a key to unlock hidden mysteries. With **ACME Visit**, visiting a landmark becomes a quest—a treasure hunt woven into the fabric of the place itself. The app whispers clues and leads, turning each location into a puzzle waiting to be solved. As you draw closer to your destination, the excitement builds, and your understanding of the place deepens with it.

In natural parks such as Coote’s Paradise or Dundas Valley, **ACME Visit** turns trails into paths of discovery, guiding you through the wild with riddles and challenges that encourage you to see the world with new eyes. A simple walk becomes an exploration of the unseen—a hunt for treasures nature has concealed, waiting for those with the keenest senses to uncover.

On university campuses, **ACME Visit** transforms the learning experience, making the pursuit of knowledge a physical journey as well as an intellectual one. Visitors can follow in the footsteps of great minds, discovering hidden gems of history, art, and innovation through the clues and challenges scattered throughout the campus.

ACME Visit is more than an app; it is a storyteller, a game master, a guide. It invites users to see the world not as a static collection of places, but as a living, breathing adventure. The treasures it offers are not gold or jewels, but the richer rewards of knowledge, experience, and the joy of discovery.

As the journey unfolds, users find themselves not just travellers but explorers—each step they take part of a grander story, written in the landscapes and landmarks around them. **ACME Visit** is where the thrill of the hunt meets the thrill of the find, where every journey is a story, and every story has a treasure waiting at its end.

ACME Visit also introduces a global reward and achievement system to motivate users to participate in more challenges and explore a broader range of attractions in multiple cities, for example. Each adventure offers unique rewards or stickers that users can display on their public profiles. Additionally, a global rating system will rank users based on completed tournaments, encouraging competition and engagement.

OPERATIONAL CONTEXT

ACME Visit operates at the intersection of exploration and technology, offering a platform where municipalities, tourism offices, or cultural organizations can craft immersive adventures tailored to their unique locations. The **ACME Visit** platform provides intuitive tools to design custom treasure or scavenger hunts with riddles, challenges, and interactive games. For those seeking a more hands-off approach, an authoring service is available, allowing expert creators to design compelling experiences that capture the essence of the location. Once crafted, an adventure can be offered to the public as a free attraction or as a paid experience, adding a layer of gamified exploration to a town, park, or campus.

Users access these adventures through the **ACME Visit** mobile app, which becomes their digital compass and game guide. The product can also be deployed as a white label and customized for a given customer (e.g., branded as an app named “**Marauder’s Map**” for McMaster). As users embark on their journey, the app seamlessly integrates with their surroundings, utilizing sound, augmented reality, and geolocation technologies to deliver location-specific challenges.

For example, a group of players start their adventure on campus with the following riddle: “*I bind the mighty with a steadfast grip; Though small, my strength is hard to strip. On fingers, I’m found, though not of gold. What am I, forged in fires bold? Seek me out, and snap me right.*”. They quickly understand that they have to go to the Iron Ring in Front of JHE (*On fingers, I’m found, though not of gold*) and take a picture of the ring (*Seek me out and snap me right*). Doing so, they unlock historical info about the Iron Ring ceremony, the Seven Wardens, and some fun facts about Mac’s giant ring. And they get their next riddle to find the next point of interest on campus.

The adventures can be enjoyed solo (or as a group using the same phone), but **ACME Visit** also supports competitive play, where multiple teams race against the clock to complete the same quest. Whether exploring for fun or competing for glory, users are immersed in a narrative-driven experience that makes every journey an adventure worth remembering.

An operator oversees the players, monitoring the progress of different groups in real-time. Based on the teams’ locations, this operator can offer hints or assistance, ensuring that the experience remains engaging and accessible for all participants.

REFERENCES

1. Omran, W., Ramos, R. F., & Casais, B. (2024). Virtual reality and augmented reality applications and their effect on tourist engagement: a hybrid review. *Journal of Hospitality and Tourism Technology*, 15(4), 497-518.
2. Capecchi, I., Bernetti, I., Borghini, T., & Caporali, A. (2023, September). CaldanAugmenty–Augmented Reality and Serious Game App for Urban Cultural Heritage Learning. In *International Conference on Extended Reality* (pp. 339-349). Cham: Springer Nature Switzerland.
3. Elshahawy, M., Magdy, S., & Sharaf, N. (2023). ARTour: an augmented reality collaborative experience for enhancing tourism. *Information Technology & Tourism*, 25(4), 549-563.

