



Member Success Case Study | Written By: Audrey Woods

Mobi

Anyone who's ever planned a trip understands how headache-inducing the logistics can be. What starts as a fun idea—a week in Paris, perhaps—can turn into an overwhelming cascade of decisions, online research, and balancing interests. What if a traveler is more interested in finding the best Parisian bread than visiting the Eiffel Tower? What if someone wants to discover a locally famous but obscure museum that might not be on any of the Top Ten Attraction lists? On top of that, one must account for weather, traffic, cost of tickets, etc.

Bringing the AI-age to the hospitality industry, CSAIL startup [Mobi](#) offers a technological solution in their travel-planning platform, which combines deep and specific knowledge of global destinations with cutting-edge logistical and organizational capability.

GETTING THEIR START

The technology Mobi is based on began in the lab of CSAIL Professor [Brian Williams](#), whose research concentrates on model based-autonomy, or the creation of long-lived autonomous systems that can explore, command, diagnose, and repair themselves using fast, commonsense reasoning coupled to machine learning. He describes how the idea for Mobi first appeared during a strategic research partnership with Boeing where he and fellow scientists were tasked with creating an autonomous control system for a personal transportation vehicle that could both fly in the air and drive on the ground. Boeing wanted a program that, Professor Williams explains, “you could interact with. So, you could say something like, I’m leaving Boston and I need to go to Logan Airport in my personal air vehicle. Along the way, I would love to fly by the Bunker Hill Monument to take some nice pictures and then stop at a four-star Chinese restaurant.” In other words, they were creating something that could plan and execute a trip based on given personal parameters, fly and/or drive the vehicle safely, and adjust based on external factors like atmospheric conditions. This research went on for about 10 years, and the articles and news pieces written about their work acted as a “catalyst” for the formation of Mobi, along with the passion of then-graduate student Peng Yu, now Chief Technology Officer at Mobi.

Professor Williams says the idea behind Mobi was also influenced by work in the AI Group at Bell Labs, where one of his colleagues once lamented about how difficult it was to organize the interviews, transportation, and logistics necessary for his work. “It surely would be nice to have a personal assistant which could just organize all these trips,” Professor Williams remembers them joking. The thought remained in the back of Professor Williams’s mind until, years later, it coalesced into the basis for a company.

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GETTING THEIR START (*continued*)

The final piece of the puzzle was when Mobi CEO Anna Jaffe got involved. An MIT graduate with experience in the Department of Transportation and connections to the transportation industry, Jaffe was interested in using technology to address “big, large-scale, intractable problems” with technical solutions, most of which required intelligent planning and organizing at scale. However, her experience at MIT had shown her how some of the biggest global problems—food scarcity, disaster response and relief, etc.—came with equally enormous responsibility and risk. The Mobi founders recognized that their technology would be able to grow and evolve faster in an area without such heavy implications. Travel, it turned out, was the perfect place to apply their idea, because, Jaffe explains, “it’s a completely consolidated space, it’s a truly dynamic problem, [and] we are sure we can deliver an extraordinary human experience.” Thus, in 2012, Mobi was born.

MOBI: A TRIP PLANNER & GLOBAL TRAVEL EXPERT

Mobi has since grown from a small team meeting in Stata Center conference rooms every week to a company of 60+ employees with major partners such as Mandarin Oriental and leisure travel company [TUI Group](#). Jaffe describes Mobi’s product as two-sided, where one side faces “any human traveler who’s moving through the world” and the other faces the travel agents, operators, and representatives of the larger corporations responsible for planning and executing customer travel plans.” Professor Williams likes to compare the program to a London taxi driver, who can simultaneously offer good, individualized advice while safely and efficiently maneuvering in dynamic systems. Jaffe elaborates, “if you think about a place you know best in the world, like your hometown, you have all these rich and nuanced details about that place, the little details that make it magical.” She sees the “core job” of Mobi as offering that knowledge in combination with the actual logistics of travel planning.

Due to the nature of the constraint programming method behind Mobi’s platform, the system is “entirely input agnostic,” Jaffe clarifies, which means a user can input images, Google maps data, or natural language to describe the kind of experience they want. Then, given this set of parameters, the interface helps a user explore options such as activities, transportation routes, and lodgings, iterating on what a user chooses and getting to know the user as it does. In this way, it brings together the place, the person, and the timing to generate and help execute an optimized itinerary for any given individual.

Early on, Mobi made the decision to work business-to-business, offering their services to bigger brands and companies because that allowed them to focus on perfecting the technology without spending too much energy on advertising. But because they work with such large enterprises, Jaffe says that their platform needs to both “feel entirely personal and responsive to each individual, [but also] function inside companies with hundreds of millions of customers.” In other words, the program had to be able to understand and act in a wide array of situations, not to mention scale to the needs of their big-business customers. This, of course, meant gathering enormous volumes of training data and the ongoing “forever work-in-progress” effort of keeping their system up to date. Luckily, Jaffe says “the timing is perfect for this type of planning program because we effectively have access to all global content,” which allows their programmers to continue to update Mobi with the latest relevant information.

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CSAIL ALLIANCES: CONNECTION AND EXPOSURE

According to Jaffe, Mobi's growth has been slow and intentional, with the company building a roster of key collaborators and customers that has allowed them to test Mobi's system in every hospitality vertical before scaling further. This means that a key part of their strategy has been to create solid relationships with industry partners over time and learn about their specific requirements and needs. Professor Williams says that **CSAIL Alliances “gives [Mobi] exposure to a lot of industry problems and really interesting people to talk to [which has] helped us shape the technology to be generally useful.”** Through their CSAIL Alliances Startup Connect membership, Professor Williams met British grocery shipper Ocado, who wanted help with factory planning, and BP, who showed interest in scheduling personnel and crew management. During the pandemic, Mobi also made a [hospital load balancing application](#), which helped the team stretch their skills and trial their technology in the healthcare field.

When it comes to their relationship with CSAIL Alliances, Jaffe is excited about what's to come, explaining that Mobi is ready to move into a more active engagement with CSAIL and Alliances programs. During Mobi's incubation period, she says, they've been initiating informal relationships and spreading the seed of their idea through Alliances events and networking opportunities. This means that Mobi has had the opportunity to prove their mettle over time, describing to industry representatives where they plan to be in the near future and then later being able to showcase the successful execution of their plan. Focusing on dependability and consistent results has allowed Mobi to develop the kind of long-term trust that is important to marketing enterprise software and engaging with big corporations

Jaffe sums it up by saying, **“The value so far of CSAIL Alliances has been getting to meet people who hopefully in a year or two are going to become incredible partners.”**

LOOKING FORWARD

Currently, Jaffe explains, Mobi is “at a place where the team is really strong, the technology's really strong and complete, and our job this year is to scale the travel side of the business in a pretty forward way.” Specifically, she wants the company to begin voicing its perspective about the risks, dangers, and opportunities of AI-related technology, in part to combat the “hype and misunderstanding” that's running amok these days. Jaffe thinks it would be “really cool” to collaborate on this with CSAIL faculty, Alliances members, and other affiliates, jointly putting out viewpoints that could “center and orient” people as AI solutions become more prevalent.

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LOOKING FORWARD *(continued)*

Generally, the goal for Professor Williams is to democratize access to planning, taking tools that were developed for military application or space exploration and make them useful and relevant to everyone's day-to-day lives. Jaffe says, "I would layer on top of that the question of how do we solve problems that are bigger than ourselves and our closest community? And how do we still do that together?" While it's been "delightful" to work in hospitality and provide extraordinary experiences to travelers all around the world, Jaffe hasn't lost sight of the impact she believes this technology could have on the global community. She says, "I think [Mobi] is big enough and stable enough where we can start to probe some of these harder, more human spaces."

To do this, Mobi will continue to engage with CSAIL Alliances member companies to learn about industry problems, adapt their platform to address customer needs, and continue growing as a company to bring AI-assisted planning to travel, hospitality, and more.



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