



Dermatogenix+ Inc. Leverages Cloud Serverless and SaaS

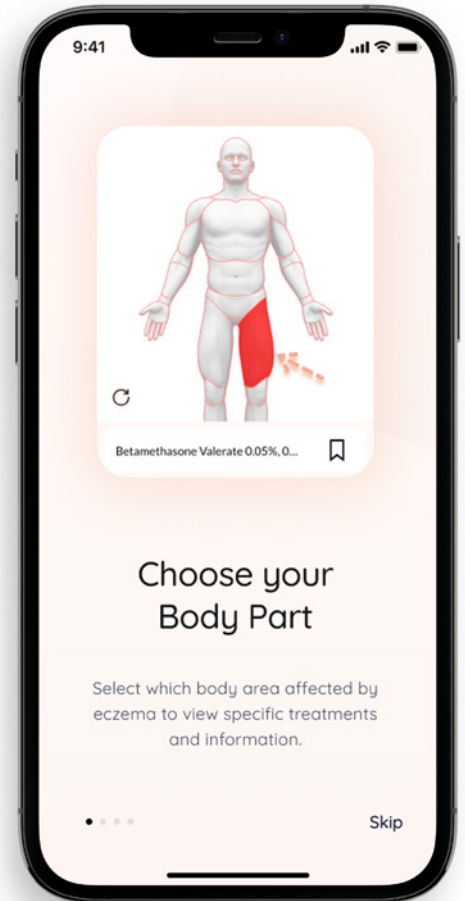
to Deliver Offerings Faster and with
Predictable Costs

Dermatogenix+ Inc. Success Story

Dermatogenix+ Inc., in partnership with the **registered Canadian non-profit Eczema Quebec**, is dedicated to the **development of mobile health (mHealth) tools** for the **adult atopic dermatitis community**. Atopic dermatitis (AD), commonly known as eczema, is not only the most common but also the most burdensome skin disorder worldwide, affecting 5-10% of adults in developed countries.

EczemaQ is a pilot mHealth app designed to provide remote access to care and personalized medicine, empowering the adult AD population through shared decision making and self-management of their disease.

The app was co-developed by Dermatogenix+ founder Dr. Carolyn Jack, an Associate Professor at McGill University in the Department of Dermatology and founder of the MUHC Center of Excellence for Atopic Dermatitis (MUHC COE AD), the first tertiary care center in Canada dedicated to adult AD patients. The app's validated educational content is centered around the most frequently asked questions from patients – what, why, when, what now, and where – with bite-sized, easily digestible educational content on AD.



- Focused on synthesizing **validated**, guideline-based information for **delivery via digital tool(s)**.
- Building **strategies to meaningfully involve patient partners** at every stage, including the adult AD-focused Eczema Quebec, based on the Strategy for Patient-Oriented Research (***CIHR***), including co-development of the app and its subsequent iterations.

Summary

TT PSC partnered with Dermatogenix+ Inc. to increase efficiency and agility:

Accelerated Time-to-Market

Utilizing platforms and tools that enable faster, more agile and independent feature development, unblocking and unburdening developers from long multi-month launches into single sprint and even single day releases.

Scalable cost model

Moving to 100% serverless and SaaS-based platforms with no minimum commitments and scalable “cheaper by the dozen” costing models. The same cost-efficient platform for 10 users in a study group will be the same platform with a cheaper per-user unit cost at 10,000 users.

Customer adaptability

Utilizing “write once run many” technologies to support customer needs across a wide variety of mobile, tablet, and browser platforms.

Adaptability to change

Providing for medical professionals, researchers, business stakeholders, and developers with the ability to adapt the platform to customer needs and requirements with minimal effort or technical knowledge.

Business Challenge

AD is an unstable, unpredictable, and, for patients, unbearable disease; it is also not 'just a skin disease,' – the onset of eczema often leads to an increased occurrence of asthma, allergic rhinitis, and food allergies (known as the 'atopic march'), as well as comorbidities including depression and anxiety. The complexity of this disease is compounded by limitations on resources at points where patients typically access care.

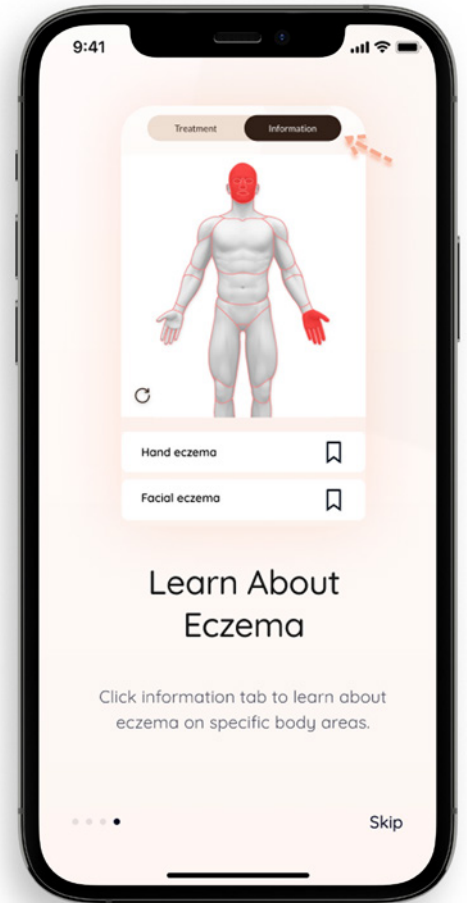
The shortage of dermatologists exacerbates the issue, particularly in Quebec where **there are just 2.5 dermatologists per 100,000 individuals**, resulting in a backlog of over 53,000 patients awaiting consultations. This backlog, coupled with the constraints of brief appointments, leaves patients struggling to address their concerns adequately.

Consequently, many turn to unvalidated digital resources for self-management, yet studies show that **most existing 'eczema apps' lack adherence to international guidelines and evidence-based practices.**

To **address these challenges comprehensively**, we created **EczemaQ**, an **expert-validated app** developed in collaboration with **physicians** from the **MUHC COE AD** and **patients** from **Eczema Quebec**.

This innovative solution aims to empower patients by providing accurate and accessible information while bridging the gaps in care caused by resource limitations and time constraints. Initially conceived of a 'Virtual Nurse,' the EczemaQ pilot aims to improve the efficiency of clinical encounters, reduce the burden of in-person knowledge translation, and help patients remotely self-manage their disease.

Given the public's great need for a tool validated by experts and co-developed with patients, Dermatogenix+ Inc. was formed to bring this **beta phase pilot to market for all adults suffering from AD**. Searching for ways to enhance the speed of response to UI/UX improvements, research enhancements, and collaboration expansion with patients, as well as trainees/interns from McGill and other pools, Dermatogenix+ Inc. turned to **Transition Technologies PSC** for help. Specifically, their collaboration set out to:



Improve application change cycle

- Streamline UX/UI changes and overcome previous platform limitations for smoother workflows.
- Facilitate external collaborators' contributions securely, with minimal training and overhead.
- Enable rapid prototyping of mockups with minimal development effort.

Provide scalable costs per user

- Shift from fixed-cost, server-based platforms to scalable solutions.
- Utilize scalable technology that accommodates user growth without incurring additional expenses.
- Support multiple developers working independently with cost-effective, on-demand development environments.

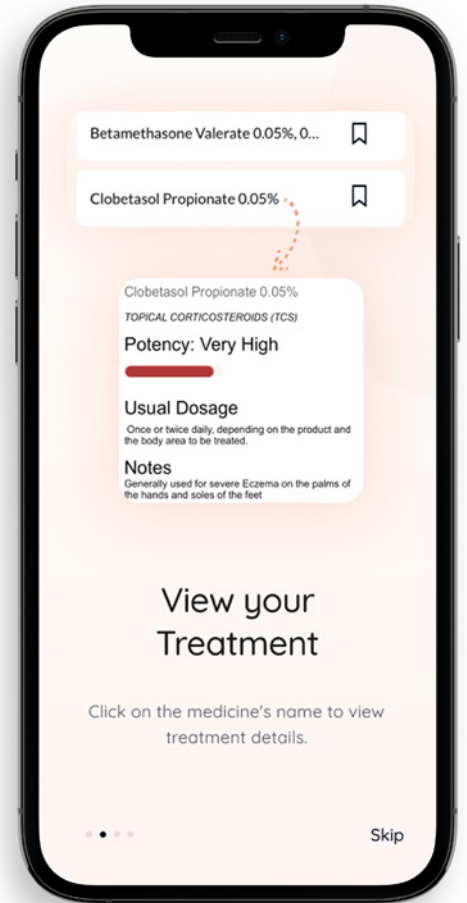
Entice & attract interns & volunteers

- Develop enticing technology processes to attract talent from academia that would not otherwise involve themselves with the projects.
- Choose technologies that provide diverse "full stack" experience, enabling independent work for impactful changes and effective referencing.

Our Solution

TT PSC collaborated with Dermatogenix+ Inc.'s team to define technical and non-functional requirements, as well as processes, to configure an AWS serverless platform, integrate with GitHub and Figma, and provide a platform empowering all stakeholders to make appropriate changes in their environment, experiment, and then deploy. TT PSC provided guidance and support from the initial design workshops through to the final release to meet business objectives and provide technical assistance. **Tools utilized by TT PSC:**

- AWS Amplify with React, including integration with AppSync, Cognito, and Figma.
- GitHub for PR's to control production access, while giving developers collaborative flexibility within their own environments and shared feature branches, ensuring the privacy of customers' medical data.
- PWA and PWABuilder for mobile application creation and deployment.
- AWS offerings for operational tooling including backups, basic monitoring, and notifications.



Results

Through the partnership with TT PSC, Dermatogenix+ Inc. has achieved significant milestones, including:

Empowering stakeholders

The collaboration at all levels enables significant independent or collaborative impacts quickly. Streamlined processes have reduced implementation time from months to weeks.

Patient feedback

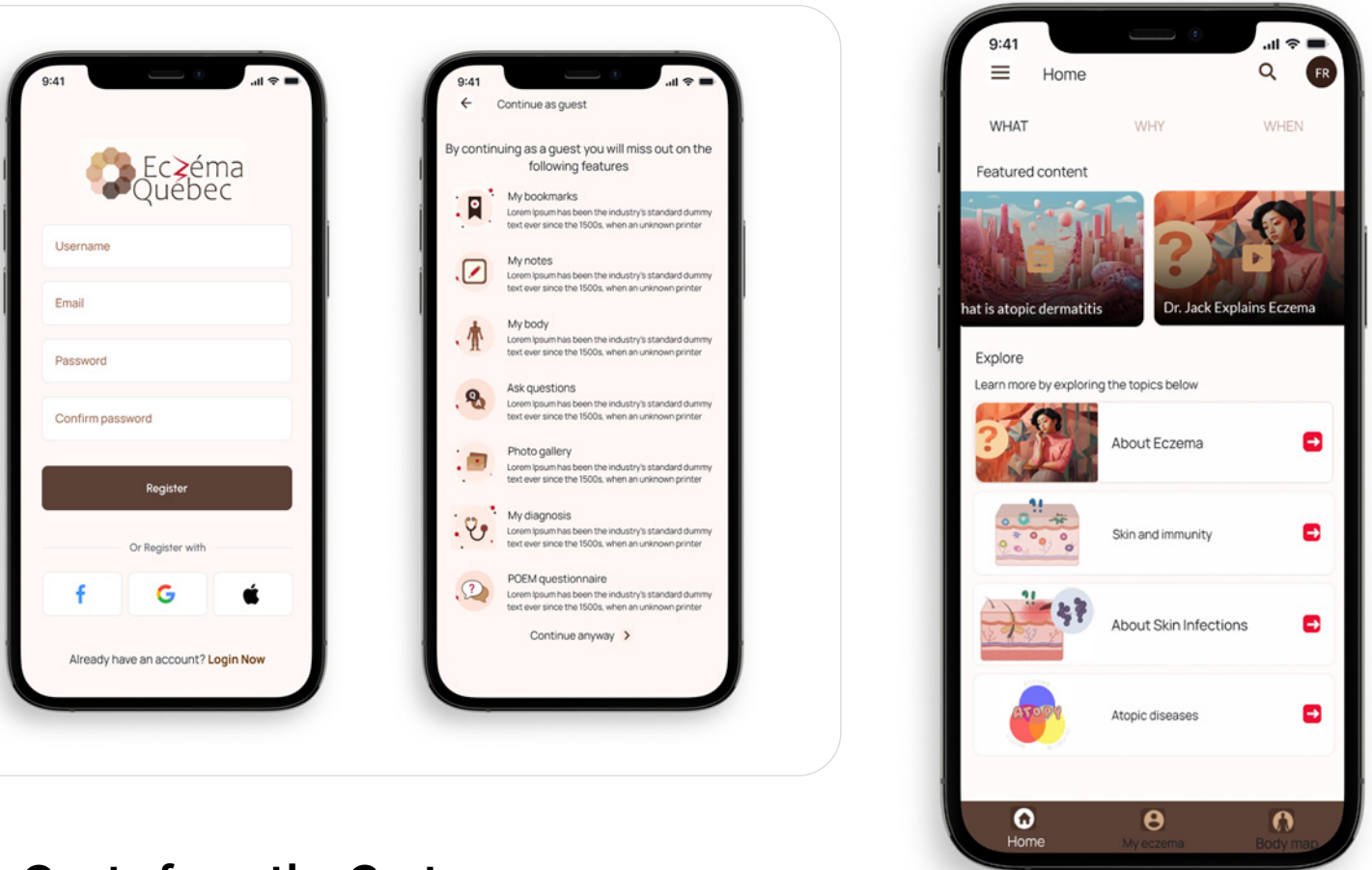
Due to the ease of development and deployment, the app's development team no longer have to pick and choose what they put in front of patients during iterative study on the tool. They can put all options on the table and let them interface, then choose the best options during the research phase.

Cost efficiency

Platform cost concerns are no longer significant. Development environments start at pennies to dollars per developer, and all technology choices scale with users. There are no unknown significant cost concerns or cost cliffs.

Operational efficiency

Self-healing mechanisms and quick re-deployment by any developer with production access significantly improve operational efficiency. This minimizes disruptions, reduces failure points, and eliminates the need for heavy operational or SRE overhead.



_Quote from the Customer

“ ***It is no exaggeration to say that our collaboration with TT PSC has completely transformed our company’s ability to bring this tool to market and to address a tremendous need for patients suffering with atopic dermatitis.*** ”

Commonly known as a ‘self-resolving’ or childhood disease, atopic dermatitis can be deeply impactful if it persists into adulthood, and it is only increasing in prevalence. The ability to provide an validated, guideline-based educational tool has never been more important, and TT PSC’s guidance and expertise has been absolutely invaluable in making that a reality. Their team’s expertise in cloud solutions delivered faster time-to-market and cost reductions, and has empowered our team to make impactful changes swiftly.

*The result is an infinitely better product; patient feedback can be incorporated seamlessly, and integrated comprehensively, reflecting our mission beautifully. **TT PSC exceeded expectations**, delivering the transformation we needed.*

Valerie Jack
Coordinator, Dermatogenix Inc.

Contact us!

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