



Nodes and the Pharmaceutical Industry

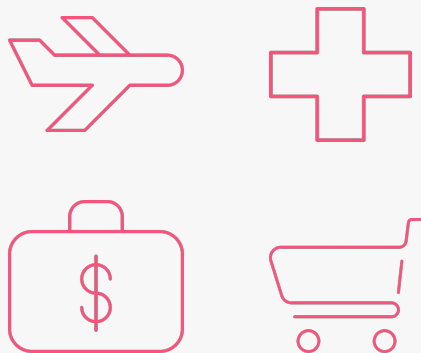
Apps in Healthcare

Pharma Companies as Drivers for Digital Healthcare

New means and expectations

The digital revolution presents an opportunity to build an entirely new world - to think big and think ahead. Policy makers across the globe look to information technology as a means of making healthcare systems safer, more affordable and more accessible. Although it is not yet second nature for the healthcare field to think digitally, the industry is testing new ways to use and implement digital solutions to optimise flows and solve real user problems. At Nodes, we see great potential for pharmaceutical companies to drive digital innovation within the healthcare industry. Digitalisation presents a new frontier to develop innovative product expansions, engage with end users, collaborate directly with healthcare staff and gain new business insights. In short, digital technologies are a means to retain market access and gain a larger market share.

Thinking digitally can be a challenge for many companies. Unfortunately, this can mean missing out on opportunities to explore new and exciting business prospects. Rapid technological changes can present roadblocks when identifying, choosing and adopting potential new product developments. In this paper, we suggest that it is not only good, smart and innovative business to develop your product digitally - it's necessary.



Apps in Healthcare

A world of opportunities

In this paper, we aim to address some of the challenges and opportunities that we have identified when working with pharmaceutical companies. Hopefully, our learnings will encourage you to think in digital solutions when problem-solving some of the challenges your company faces.

We hope you'll enjoy it!

We are going address how to...



provide premium service to avoid loss of market shares when your patent expires



allow the patient to take ownership of their treatment when clinical procedures change



ensure integration with medical devices in a world of 'Internet of things'



collect data on user engagement to better cater your products and services to customers



Challenges and Opportunities

Ensure market shares when your patent expires

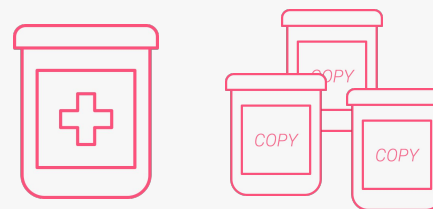
Challenge

Pharmaceutical companies are often developing new medicine and new medical devices. This means that patents are obtained for new products and that these eventually expire. At this point, users may be inclined to choose a cheaper generic product when purchasing their medicine.

Opportunities

The trend we see is that companies strive to a **provide premium user experience** in a unique solution in order to reduce the potential loss of revenue when the patent expires. The tangible solutions vary, but often contain at least one of the following:

- A unique customer service experience where the user can manage their treatment and execute a great amount of **self-service**
- A platform that **supports treatment compliance** for the user
- A platform that provides brand-specific information and intuitive **guides**



Challenges and Opportunities

Provide the patients with the right information when clinical procedures are changed

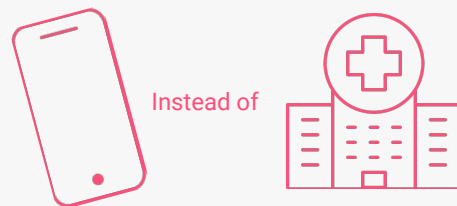
Challenge

A key area for innovation is clinical procedures. Hospitals are changing their workflow to create more efficient systems for handling outpatients. The result is that patients no longer need to go to the hospital in order to receive treatment. Time previously spent on getting relevant information while talking with the doctor or nurse is now severely reduced. Pharmaceutical companies therefore need to identify new touch points with patients.

Opportunities

We often help companies build **patient-oriented tools** that create a direct line to the end user. Examples are:

- A platform for the patient to **record** mood swings, loss of appetite, and other information that was previously shared with the nurse or doctor
- A tool that allows the patient to take **ownership** of their treatment and manage **appointments** and consultations
- A way to provide all the relevant **information** in a format that makes it easy for the user to navigate possible solutions
- Enable **patient-to-patient interactions**



Challenges and Opportunities

Increased interactions between medical devices and smartphones and Internet of things (IOT)

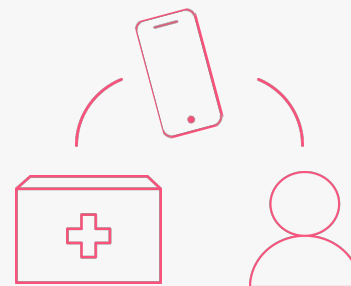
Challenge

Medical devices can often benefit from integration with digital subproducts, such as a mobile device. In treatment, the patients and HCPs often need to understand and comprehend complex information collected through different platforms. This can potentially lead to errors in treatment and frustrated patients.

Opportunities

In our experience, it is important to provide the users with an intuitive and smooth **integration** between medical devices and mobile devices. The integration can enlighten the user about the following:

- **Real-time data**, to enhance medication management
- **Data visualisation**, to minimize errors and provide a foundation for evidence-based decision making
- Capture data to provide **information** on the level of **user compliance**
- **Mobile coaching** of patients and HCPs



Challenges and Opportunities

Mobile provides valuable business insights

Challenge

Sociocultural, economic and technological drivers are changing the demand for new and innovative services in healthcare. The customers are increasingly expecting new products, convenience and customized services. The challenge is to stay well-informed in regards to behavioural changes and customer demands. However, gathering frequent data can be a resource challenge.

Opportunities

There are several benefits to thinking digitally in regards to gathering business insights. Customers are increasingly using mobile devices when searching for information, contacting healthcare personnel and managing their overall health. Enabling the user to voluntarily opt-in is not only a huge cost-reducer, it also enables researchers to see changes over time and gain general insights into the customer's behaviours and challenges.

Examples are:

- **Health tracking** as a way to gain data from a large population pool
- **Medication management** as a way to gain insights into customer behaviour and ensure that the user stays **compliant to treatment**
- **Behavioural tracking** posttreatment to better track positive and negative effects over time



How to Face your Challenges?

5 Day Sprint - A risk-reducing process

To address some of the challenges your company might face, we propose a process that facilitates innovation in a focused 5 day workshop (known as a sprint) where problems are identified and solutions are prototyped and tested with real users, all within one working week. We truly believe that the best digital product is born from a process that facilitates innovation and co-creation. By starting the process of developing your product in a 5 day sprint, your company can prototype and test an idea with real users after only a short week and thus avoid spending large amounts of resources on developing a product that users might reject in the end.

We often see that innovation within healthcare can be a challenging process with multiple stakeholders, extensive time to market and high risks. Eliminating unknowns can reduce risks and ensure an important buy-in from internal and external stakeholders in the early stages. Therefore, it makes sense to start a new project with a short and focused process to clarify whether the project is worth pursuing and, if so, how to pursue it. This will ultimately lead to a tangible outcome and a strong case that you can present to your stakeholders.

In the 5 day sprint, we explore a problem, formulate ideas and validate a prototype with real users. You will gain tremendous knowledge about the user/patient journeys, market opportunities and feedback to help you decide on the next step and shape a strategy for funding and distribution of the project.

“...fast-forward into the future to see [the] finished product and customer reactions, before making any expensive commitments. When a risky idea succeeds in a sprint, the payoff is fantastic.” [1]

[1]: Excerpt From: Jake Knapp (former Design Partner at GV). “Sprint: How to Solve Big Problems and Test New Ideas in Just Five Days.” iBooks.



5 Rapid and Intense Days

Monday: Mapping of current situation and area of focus

The facilitator asks the question: Why are we doing this project? The answer lies in the current user journey, all the embedded challenges and the needs from patients, HCPs and internal stakeholders.

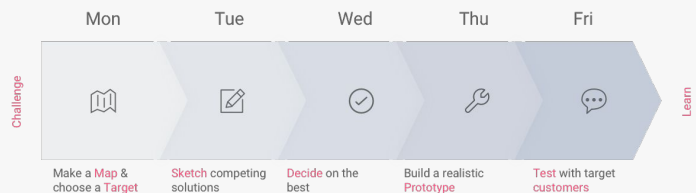
Day 1 is all about knowledge sharing, making sure we are on the same page and allowing all stakeholders - both internal and external - to voice their opinion.

Tuesday - Wednesday: Sketching and selection

Once everyone is in agreement about the most important problem to tackle, we can start solving it. On Tuesday, we generate concepts that attempt to solve the main challenge. On Wednesday, it's time for the difficult decision about which concept to prototype.

Thursday - Friday: Prototyping and testing

All of Thursday, we build the prototype that best shows the concept. On Friday, we test the prototype with real users and collect feedback through usability testing and interviews.

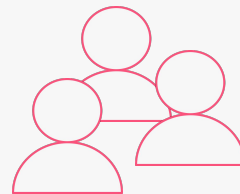


Who to Include in a 5 Day Sprint?

Internal stakeholders

A 5 Day Sprint is an intense process that requires 100% focus from the *right* stakeholders. To ensure a smooth process, it's important that the team is capable of making decisions based on relevant knowledge that it holds. Ultimately, the full scope of knowledge and opinions will optimise the chances of ending up with a realistic and satisfying concept. To that end:

- Technical and financial insights must be represented
- An internal stakeholder with in-depth knowledge about the user must also be present (e.g. a member of your Support team)
- A strong decision maker must have the mandate to call veto (or cast the “supervote”)



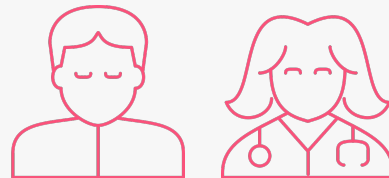
Who to Engage in a 5 Day Sprint?

External stakeholders: HCPs and patients

The best results are obtained when healthcare personnel are engaged in the project as early as possible. The greater influence the HCPs have on the chosen solution, the more likely we are to achieve buy-in later on.

Likewise, if the problem concerns patients, the sooner we ask the patients what they need and learn about their experience with the care system, the more likely we are of building a usable product that solves an actual problem for the patient.

As part of the 5 Day Sprint, HCPs and patients are invited to contribute with first-hand insights, experiences and needs.



Technical Insights in the Sprint

Technical counselling to meet strict legislation

The pharmaceutical industry is highly regulated. Often, the legislation imposes a technical challenge. A 5 Day sprint is an ideal forum for discussing some of the technical challenges and opportunities within:

- App distribution through internal or external sources
- Data capturing within current policies
- Reporting responsibilities in terms of misuse or side effects
- Approval procedures from Apple and Google



After the 5 Day Sprint, Consider the Next Steps

Stakeholders

Which stakeholders are important to onboard? Is there a preferred format for presenting findings? Who should be involved first and what timeline are we looking at?

Generate content

Reliable and approved content is the core of many pharma apps. Planning and creating the content is important in the early stage. How do we, from the beginning, ensure that the content does not conflict with the technological options?

UX/UI phase

The detailed work on concept, flows and design will be addressed in a user experience and user interface phase. Consider how cultural differences and cross-border challenges can be met while keeping technical feasibility in mind.

Development

Development will be executed in a manner that allows you to revisit ideas and incorporate new knowledge to ensure the best end product.

