



# inStroketer

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Team MELLA

# Our Team

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# Problem Context

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- ~**795,000** people suffer from strokes annually in the US
- Stroke is the most common cause of adult **disability**
- In addition to various disabilities, **70-85%** of stroke survivors face some form of body paralysis
- Stroke patients are **unmotivated** towards their progress
- There is a **lack of personalized stroke care**, and **real-time progress monitoring**
- These issues make the current process too **time consuming** and **ineffective** for Doctors, Patients and Caregivers



# **Problem Statement**

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How might Stroke Patients achieve rehabilitation so that they can recover & achieve their goals more efficiently?



## Market

With regards to healthcare-related SaaS platforms, and through our interviews with medical professionals, there is a **lack** of online platforms in this field and our solution covers a gap that has so far been **ignored**.



# Research



4

Stroke  
Doctors



2

Physical  
Therapists



1

Occupational  
Therapist



3

Caregivers



1

Patient

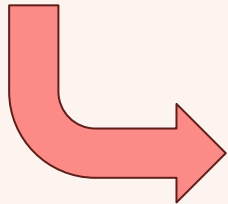
# Research Insights

**Medbridge:** A website that allows providers to assign evidence-based, clinical programs to support patients' recovery. Patients receive ongoing reminders and encouragement to complete their rehabilitation program and can track their progress with their provider.



MEDBRIDGE

**HEP2Go:** A website containing a library of exercises categorized by part of the body. Each exercise has a name and description of how it should be performed. The provider can add an exercise to a home exercise plan and send this plan to their patient.



*The current solutions do not cater towards the specific needs of stroke patients through their functionality and interface, and are only mainly used by rehabilitation therapists for retrieving videos and showcasing exercises.*



# Personas

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**James**  
Doctor

- Hopes to provide more **effective advice** to patients
- Thinks that an **interactive solution** might make the recovery smoother for patients



**Lucy**  
Patient

- Recently left inpatient care and is **looking for motivation** to complete exercises
- Wants a **comprehensive guide** to complete all her exercises



**Mary**  
Lucy's Caregiver

- Finds it **tough managing** her own life and Lucy's.
- Want to find ways to **keep track of everything** easily







# Our Solution

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To address the problems with stroke rehabilitation, we've created a web application, **inStroketor**, that **digitizes & streamlines stroke rehabilitation for patients post-stroke.**

inStroketor provides patients with a **digitalized and individualized** rehabilitation progress plan, the ability to **walk through rehabilitation exercises** step-by-step, and resources to **connect** with other stroke patients nationwide.

Our focus is on ensuring transparency regarding at-home rehabilitation, while also enabling effortless monitoring of exercise progress. With many current stroke rehabilitation methods being inefficient and un motivating for many stroke patients, **inStroketor is a convenient solution that encourages accurate rehabilitation practices.**



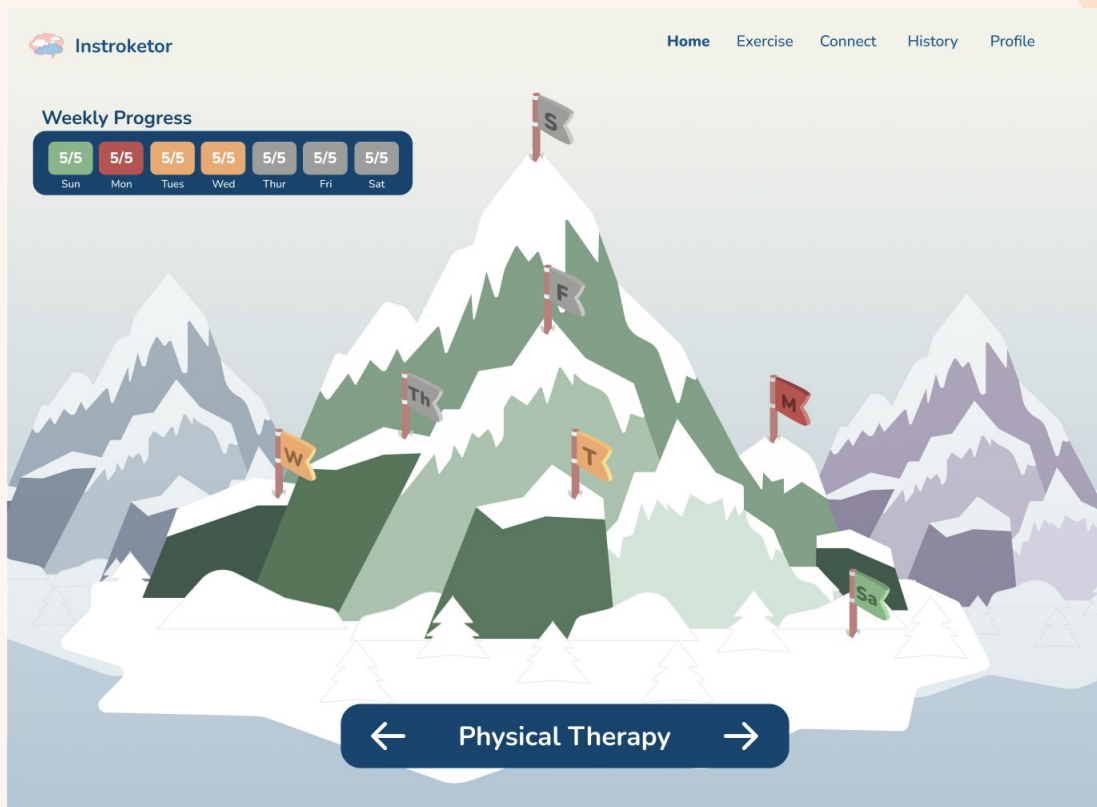


# **Key Features - Patient Side**

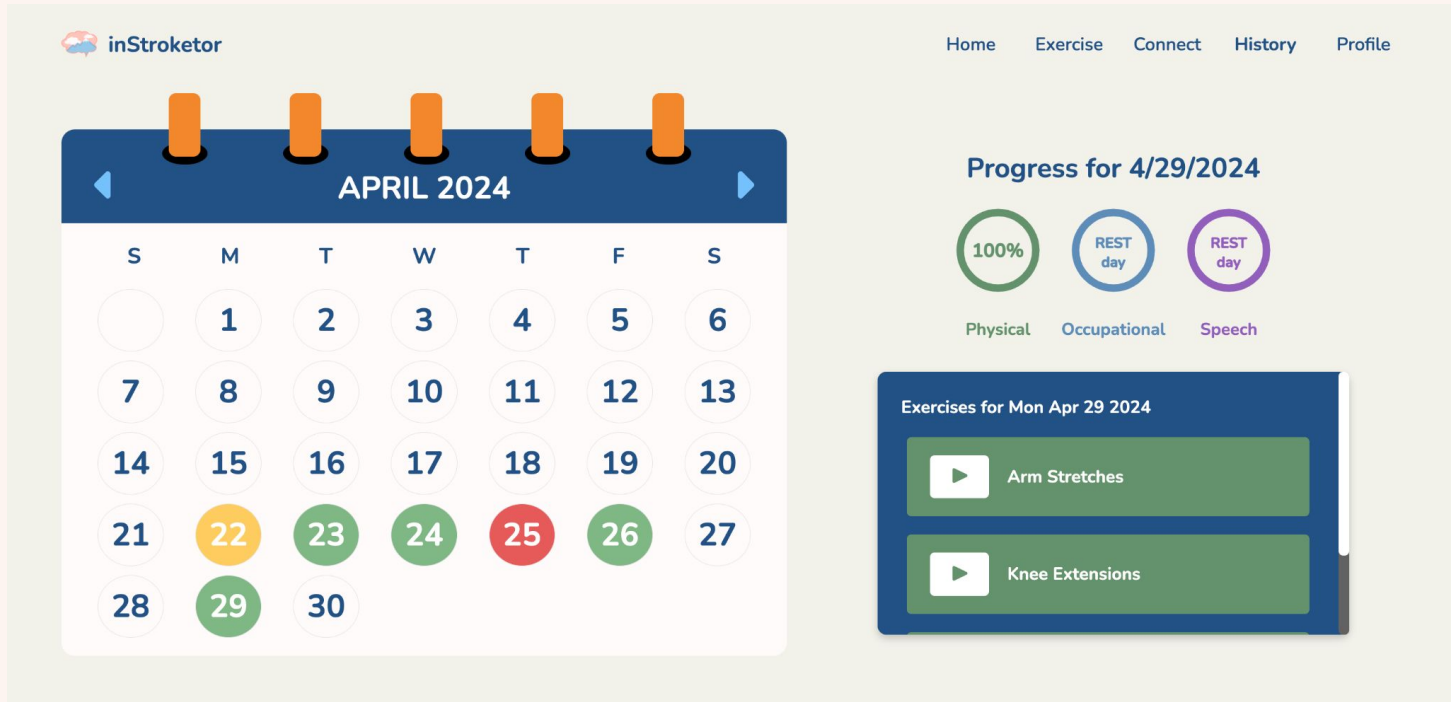
# Home Page

inStroketor aims to provide a convenient solution for patients and their doctors to successfully carry out the stroke rehabilitation process, while ensuring that all stakeholders with varied conditions are helped.

Though the home page, a patient can see their weekly progress based on the status bar and mountain flags, in the specific category (physical, occupational, and speech) that their choose.



# History Page



The history page allows the patient to view their status for any day, simply by clicking on it. The progress is evaluated on three metrics, and displayed. Additionally, they're able to also see the exercises assigned on that day, for reference.

# Exercise Page

The screenshot displays the inStroketor exercise page. At the top, the navigation bar includes 'Home', 'Exercise', 'Connect', 'History', and 'Profile'. The main heading is 'Progress for 5/10/2024'. Below this, three circular progress indicators are shown: 'Physical' at 67%, 'Occupational' as a 'REST day', and 'Speech' as a 'REST day'. A 'Start Exercise Physical #3' button is located below the Physical indicator. To the right, a video player shows a '20 MIN CARDIO X HIIT' workout. Below the video is a 'Turn On Webcam' button. The 'Exercise Description' section provides details: Exercise Name: exercise workout; Exercise Description: try this three times please; Number of Sets: 3; Number of Repetitions: 3; Weight / Band: none; Hold Time: 3; Additional Links: (empty). A 'Complete Exercise' button is at the bottom right.

inStroketor

Home Exercise Connect History Profile

Progress for 5/10/2024

67%

Physical

REST day

Occupational

REST day

Speech

Exercise - exercise workout

20 MIN CARDIO X HIIT

20 MIN

This is you

Turn On Webcam

Exercise Description

Exercise Name: exercise workout

Exercise Description: try this three times please

Number of Sets: 3

Number of Repetitions: 3


Weight / Band: none

Hold Time: 3

Additional Links:

Complete Exercise

The exercise page shows real-time progress about user's exercises and shows a video to follow. There's also a description and a live webcam feed to assist with exercises.

 [Home](#) [Exercise](#) [Connect](#) [History](#) [Profile](#)

## Washington

Select your city

Spokane

### LOCAL GROUPS

**509 Therapy Hub Stroke Support Group**  
Spokane Valley, WA

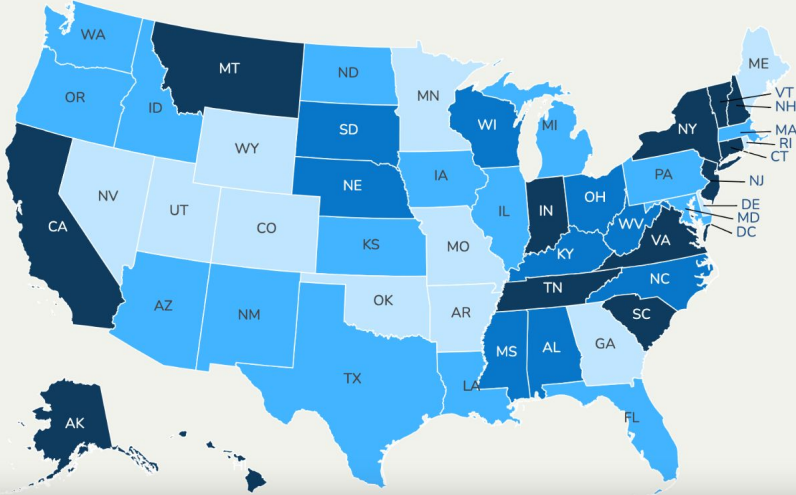
[Visit Group](#)

**Providence St. Luke's Rehabilitation Medical Center**  
Spokane, WA

[Visit Group](#)

## Get Connected in Your Area

Click on the State you live in to get connected with Local stroke support groups



# Connect Page

And lastly, we created a map for users to connect with other users & communities within their area within just a few clicks.



# **Key Features - Therapist UI**

### Patient List

First Name	Last Name	Email	Status	Delete
Leah	Jia	leah1093195936@gmail.com	3 days ago ✓	✗
Aldijana	Sabanovic	sabanovic2002@gmail.com	3 days ago ✓	✗
Lily	Jefts	ljefts@uw.edu	3 days ago ✓	✗
catherine	yaque	catherineyaque@gmail.com	3 days ago ✓	✗

Manage Invitations

Received (0) **Sent (1)**

First Name	Last Name	Email	Status	Action
yuwenj3	yuwenj3	yuwenj3@uw.edu	3 days ago	 <input type="button" value="Cancel"/>

# Therapist Side



# Patient Page

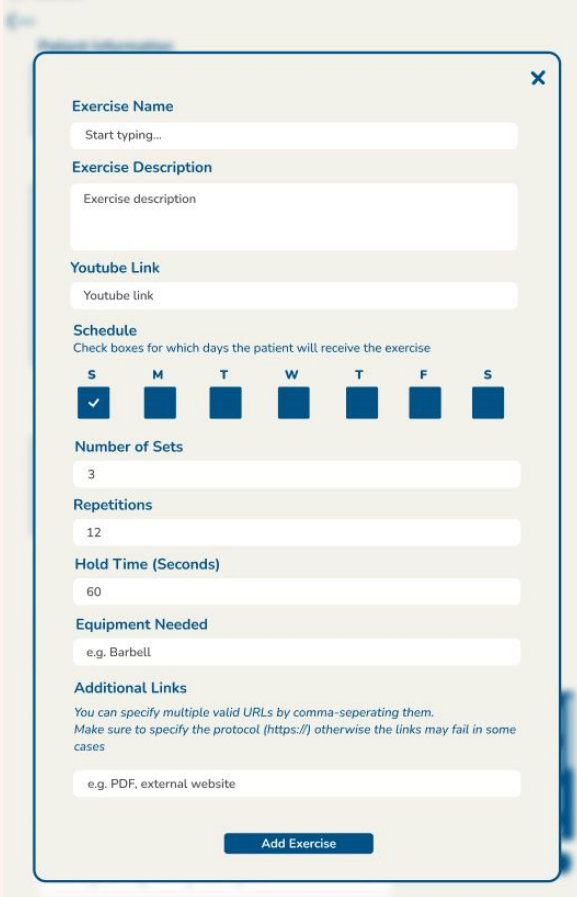
To enhance the management of therapy schedules, we've implemented a user-friendly feature in inStroketor that allows therapists to easily add or edit exercises. Therapists can assign exercises across multiple days, and each assignment is clearly displayed, allowing for quick adjustments as needed.

Additionally, the system provides a detailed calendar view that helps therapists monitor a patient's progress. This includes the ability to see completed exercises and patient feedback at a glance. Insights gained from this data can be seamlessly integrated into future planning, ensuring that therapy sessions are responsive to the patient's recovery trajectory.

The screenshot displays the 'inStroketor' Patient Page. At the top, it shows 'Patient Information' for Sam Smith (Email: Smith08@gmail.com). Below this is the 'Current Week' section, which includes a grid for 'Exercises Added' and 'Exercise Schedule' (S-M-T-W-T-F-S). Two exercises are listed: 'Exercise # 1' and 'Exercise # 2', each with a green checkmark on the appropriate days. An 'Add Another Exercise' button is present. The 'Upcoming Week' section shows a large orange plus sign. The 'Overall Progress' section features a calendar for February with colored markers on days 1-9. A 'Progress for 2/8/23' sidebar shows a list of exercises with status icons (green checkmark, red X, green checkmark, red X) and a 'View Survey Questions' button.

# Add Exercise

To provide a comprehensive exercise experience, our platform allows therapists to input detailed exercise instructions, including descriptions and video links. Therapists can also specify the days on which each exercise should be performed, ensuring that patients have all the information they need to successfully complete their exercises at home. This feature is designed to enhance patient engagement and support effective recovery.



The screenshot shows a modal form titled "Add Exercise" with a close button (X) in the top right corner. The form contains the following fields and sections:

- Exercise Name:** A text input field with the placeholder "Start typing..."
- Exercise Description:** A larger text input field with the placeholder "Exercise description"
- Youtube Link:** A text input field with the placeholder "Youtube link"
- Schedule:** A section with the instruction "Check boxes for which days the patient will receive the exercise". It features seven checkboxes labeled S, M, T, W, T, F, S. The first "S" checkbox is checked with a white checkmark.
- Number of Sets:** A text input field containing the number "3"
- Repetitions:** A text input field containing the number "12"
- Hold Time (Seconds):** A text input field containing the number "60"
- Equipment Needed:** A text input field containing the text "e.g. Barbell"
- Additional Links:** A section with the instruction "You can specify multiple valid URLs by comma-separating them. Make sure to specify the protocol (https://) otherwise the links may fail in some cases". Below this is a text input field containing "e.g. PDF, external website".

At the bottom right of the form is a blue button labeled "Add Exercise".

# Key Concepts



## Accessible Healthcare

inStroketor is accessible to anyone with an internet device and medical professional who can prescribe exercises.



## Individualization

Each exercise plan is catered to an individual patient's recovery needs.



## Community

Patients can connect with other patients in the area to discuss their journeys and encourage motivation.



## Progress Tracking

Patients and therapists can monitor progress and feedback to ensure proper recovery.

# User Testing and Validation

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**1**

Stroke  
Doctor



**3**

Physical  
Therapists



**1**

Occupational  
Therapist



**3**

Caregivers



**15**

Patients

# User Testing and Validation

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100%

of stakeholders we interviewed  
expressed interest in using  
inStroketor

*“Your idea is terrific. I’ve never used such a tool before or know of any like it. I think many stroke patients including myself would benefit from it.”* - Joey M., 65, Stroke Patient

*“This application is exciting and different from others because of its adaptability. It is personalized based on a patient’s specific needs, has a simple UI, simplifies rehab process, and allows people to do rehab without cost and time factors.”* - Catherine U., 32, Physical Therapist



# Ethical Considerations

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## Initial Values

inStroketor aims to provide a convenient and cost-effective solution for patients and their doctors to successfully carry out the stroke rehabilitation process, while ensuring that all stakeholders with varied conditions are helped.

## Ethical Concerns

Ensuring that we are HIPAA compliant and are handling user data safely is one of our highest priorities. Additionally, serving all related stakeholder groups and respecting their diversity is key for us, and something we intend to work out meticulously.

## Positive Impact

By adding features such as webcam to allow patients to follow their exercises, as well as increasing color contrast and simplifying ease of use, we have been able to improve the experience for potential users. We intend to integrate customer feedback as we move into future phases to provide more positive impact.





# Next Steps

1

Verify HIPAA and ADA compliance and conduct beta testing to further refine product

2

Register inStroketor as a C-Corp

3

Release and promote **inStroketor** to the public

4

Participate in a business accelerator program

5

Partner with healthcare organizations to increase customer base

6

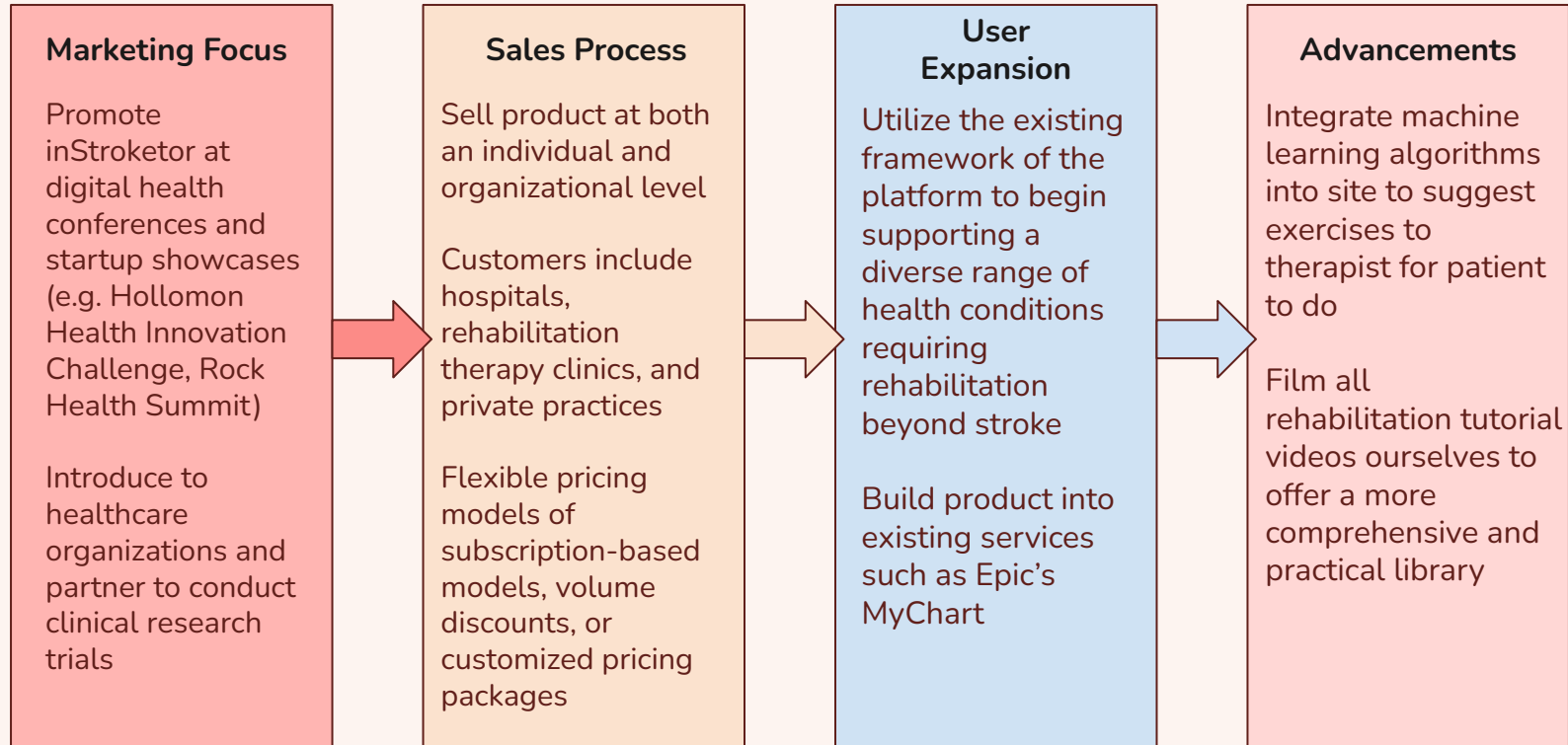
Scope out future vertical expansion opportunities





# Scaling inStrokerator

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**Thank You!**

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