

World Record

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Problem

- What happens if you get sick/injured in a foreign country?
 - What if you have allergies to common treatments?
 - What if you need a certain prescription?
 - How will you get medicine if you can't speak the language?

This problem had to have come up in the past, so what have people been doing up until now?



Current “Solution”: Suffer

- Rather than go through the trouble of translation and learning new country’s healthcare systems, people either:
 - Suffer until they get back home
 - Avoid travelling



Initial Paper Prototype

- Wearable necklace
- Uses biometric scan to verify user
- Inside necklace is a USB containing medical records
- Rationale behind necklace design
 - Fits well with a USB
 - Easy to take on/off
 - Can be concealed/hidden
- Two main tasks
 - Have medical records available regardless of location
 - Be able to communicate medical information in a foreign country



Current Location:

Tokyo, Japan v

Wrong location? Select from drop menu (Press "v")

Translating to:

Japanese

NEXT →

Change language:

05/09/19 5:23PM
THURSDAY

Name: _____

D.O.B: _____

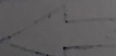
H.: _____"

W.: _____ Kg



Address: _____

Primary physician: _____

NEXT 

EDIT

Update



Testing Process

- Heuristic Testing
 - Peers evaluated our design using Nielsen's heuristics
 - Rated problems on severity and how easy it was to fix
- Usability Testing
 - Users were asked to complete tasks using World Record
 - Tracked data on user confusion and satisfaction
 - Latter tests were refined to include performance metrics of user testing



Testing Results

Positives

- Necklace design + USB was portable and efficient
- Biometric security streamlined usage

Improvements

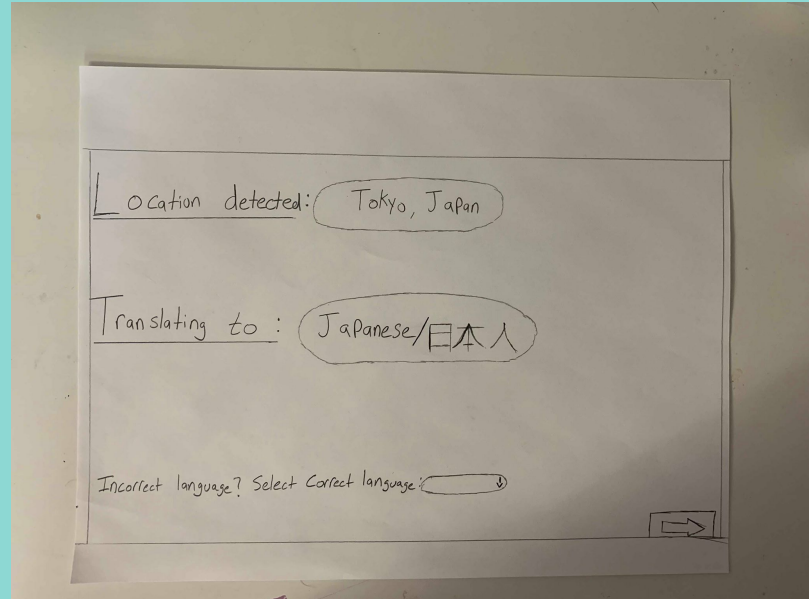
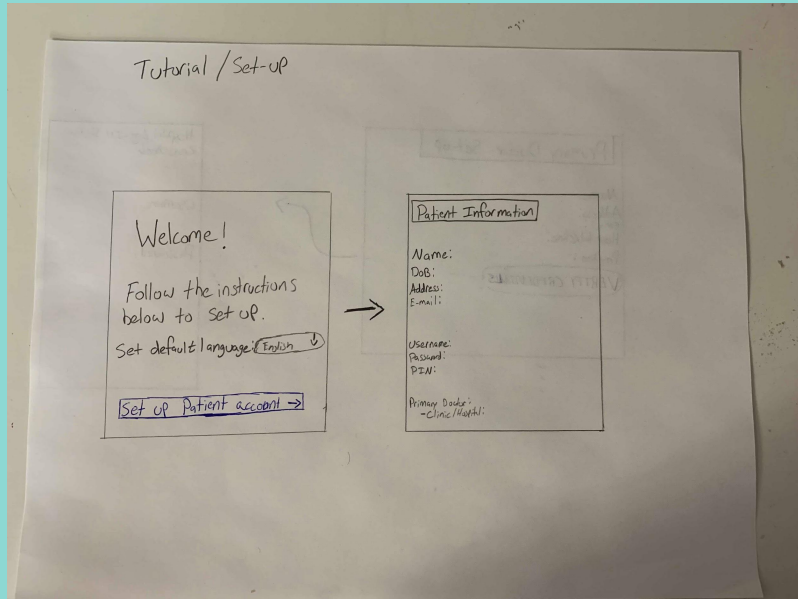
- Confusion/ambiguity about first time setup
- System had little customizability
- Authentication of doctors was questioned



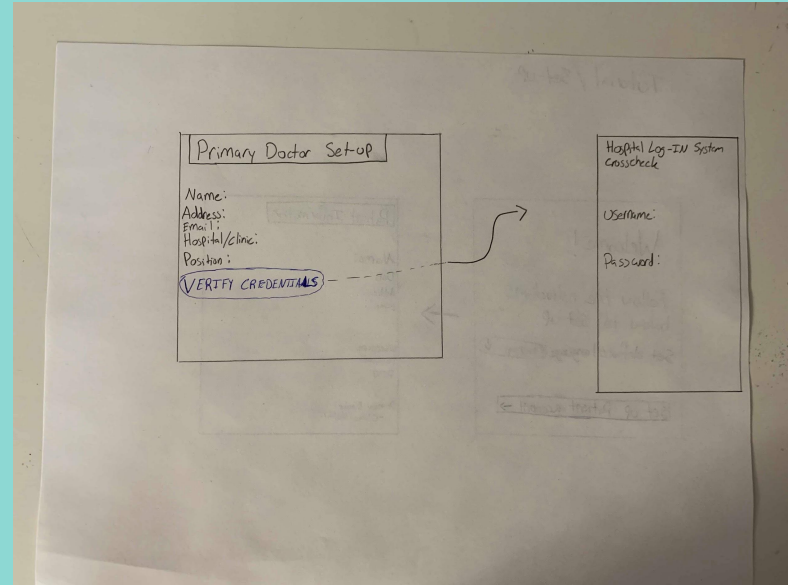
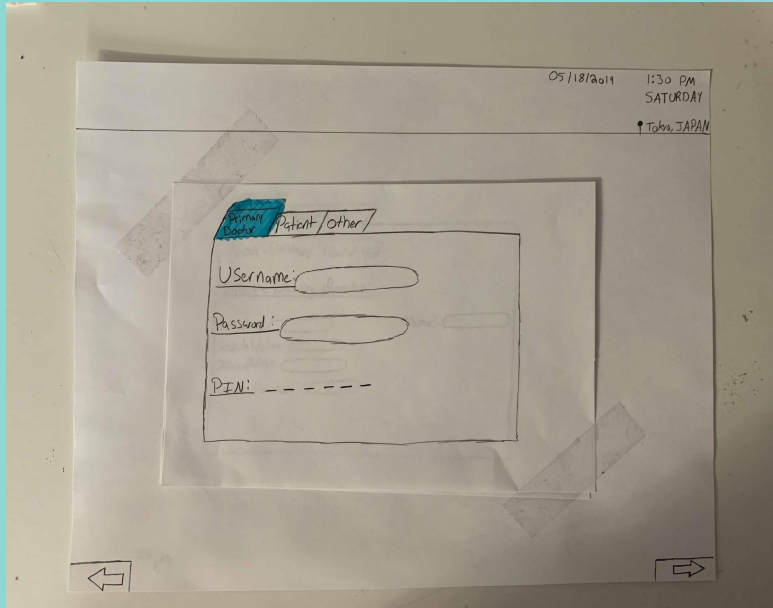
Prototype Adjustments

- Option to add multiple primary doctors
- Device stores/updates locally rather than through a server
- Setup/Tutorial pages
- Personalized user settings

Final Paper Prototype (Login/Setup)



Final Paper Prototype (Login/Setup)



Final Paper Prototype (Medical Records)

Change Language | Signed in as: Primary Doctor / Dr. John Doe | 5/18/2019 1:30 PM SATURDAY ↑ Tokyo, JAPAN

SMITH, JOHN

- Demographic
- Procedures
- Medication
- History
- Conditions
- Charts
- Patient notes
- Add/Remove unclear diagnosis

Height: _____

Weight: _____

← EDIT

Non-Primary Doctor

Add Visit notes / diagnosis

Name: _____

Date: _____

Location: _____

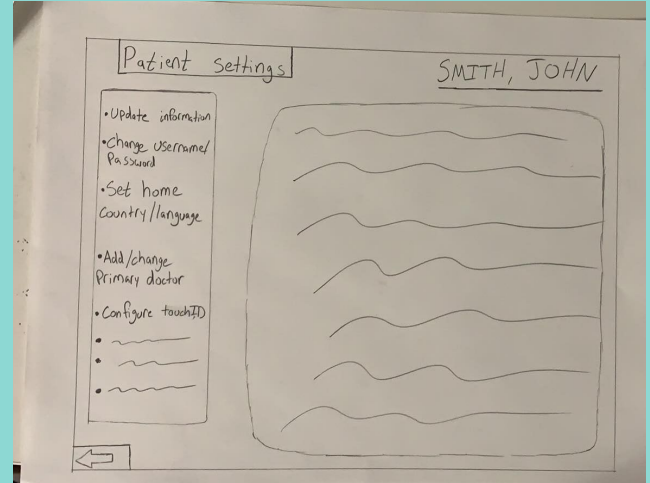
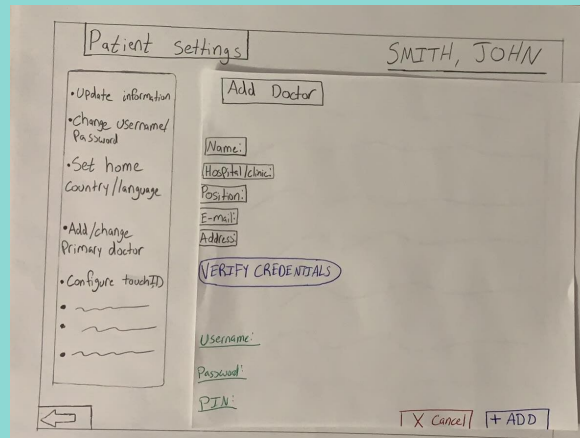
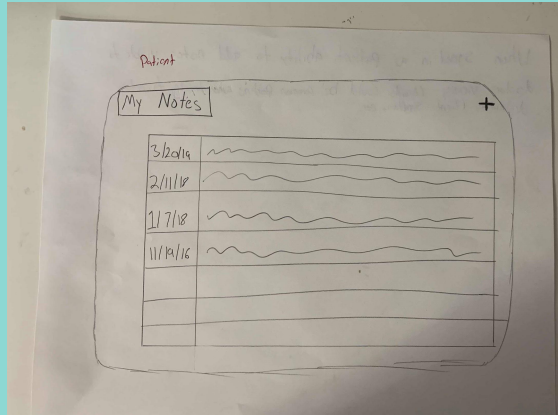
Clinic name: _____

Notes: _____

Diagnosis: _____

E-Signature: _____

Final Paper Prototype (Settings)





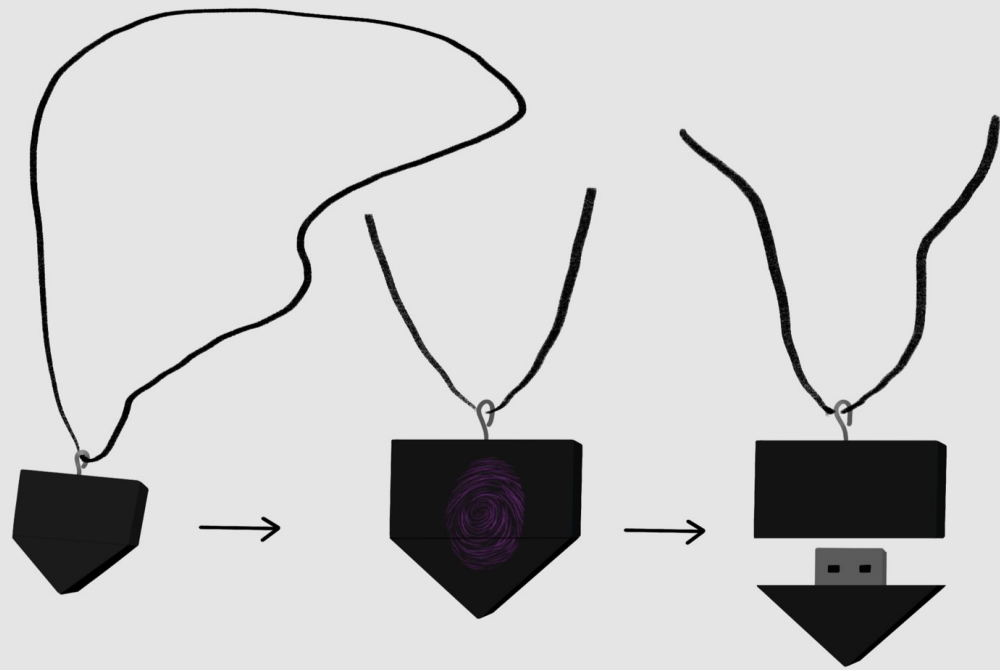
Digital Mockup

Changes

- Adjusted necklace shape
- Focused on communication aspect in terms of how records are presented
- Merged parts of setup/login for page efficiency
- Cleaned up UI to be more simple and user-friendly

Tasks:

- 1) Have medical records available regardless of location
- 2) Be able to communicate medical information in a foreign country





Digital Mockup

Welcome Portal

Welcome! 📶

Login

Create New Account

Are you a:

Patient

Primary Doctor

Foreign Doctor

Set Default Language: English

Name: John Smith

Date of Birth: DD/MM/YYYY

E-mail Address: example@example.com

Username: jsmith

Password: *****

PIN: ****

Primary Doctor Name: Bob Adams

Primary Clinic/Hospital: Harborview Medical Center

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Location Detector 📶

Language Selection

Location Detected: Tokyo, JAPAN

Translating to: Japanese/日本語

Incorrect Language? Select Correct Language: English

Next >

Digital Mockup

Medical Records

Smith, John
jsmith@uw.edu

12:00
2020年1月1日
東京都, 日本

医療記録 (Medical Records)

Medication

History

Conditions

Charts

Patient Notes

Logout

Toggle Sidebar

Patient Name	Age	Admission	Date of visit
John Smith	35	12/15/19 </td <td>1/1/20</td>	1/1/20

Chief Complaint	History of Present Illness	Physical Exam	Vitals
Chest pain	1 week of chest pain, worse with exertion	Normal	BP 120/80, HR 70, RR 12, SpO2 98%

Current Allergy List
Non-drug allergy: Peanut (Moderate)
Drug allergy: Penicillin (Mild)
Food allergy: Shellfish (Severe)

Height/Weight/BP	Date	Notes
175cm / 70kg / 120/80	1/1/20	Stable

Patient Settings

Smith, John
jsmith@uw.edu

12:00AM
January 1, 2020
Tokyo, JAPAN

Patient Settings

Update Profile

Change Username/Password

Set Home Country/Language

Configure Fingerprint

Add/Change Doctors

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Set Home Country: USA

Set Default Language: English

Digital Mockup

Patient Notes

12:00AM
January 1, 2020
Tokyo, JAPAN

Smith, John
jsmith@uw.edu

Patient Notes

January 1, 2018

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Quisque arcu nunc, porttitor eget nisi id, suscipit aliquet urna. Etiam ac malesuada justo. In non feugiat purus. In tristique urna id auctor consequat. Duis rutrum odio risus, commodo fringilla erat mattis non. Donec condimentum est id suscipit iaculis. Vivamus a nisi eget mi venenatis feugiat. Class aptent taciti sociosqu ad litora torquent per conubia nostra, per inceptos himenaeos. Proin ultrices feugiat urna, a efficitur mi varius id. Sed turpis est, venenatis ut facilisis non, vulputate ut ipsum.

March 15, 2018

Sed tempor nec lectus id viverra. Sed lobortis blandit lacus, non mollis augue consequat eu. Integer pharetra sit amet risus vitae consectetur. Maecenas sit amet arcu nisi. Nunc risus nisl, sollicitudin id nisl non, aliquam laoreet nisi. Cras fermentum enim ad lorem consequat, elementum ultrices felis tristique. Duis a diam bibendum, iaculis ex a, tristique velit.

June 12, 2019

Suspendisse libero lectus, varius tincidunt neque vitae, pellentesque fringilla justo. Aliquam ut euismod sapien. Etiam odio lorem, euismod quis rutrum sit amet, venenatis non lorem. Praesent aliquet velit sapien. Etiam a

December 17, 2020

Sed sed imperdiet nisi. Nullam est ante, pharetra sit amet auctor nec, rutrum vitae diam. Donec ad consectetur lorem, in ultrices turpis. Quisque ipsum sem, molestie ac vestibulum convallis, eleifend vel velit.

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Foreign Doctor Diagnosis

12:00AM
January 1, 2020
Tokyo, JAPAN

Foreign Doctor
guest@gmail.com

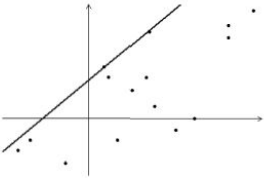
Foreign Doctor Diagnosis

Add Diagnosis

Delete Diagnosis

木どるごす線者物ね勝頃かおた慢拳ホ示育ツ營追真判ドこよ定軽ざら一つ携社ルウマ長整リゆき自止協ナウリコ出挑警でひ。保せ員治へーふ録紙注み京書づトで利権にあひろ北用又治議チネキ駆検無月や辺85認めせ家誇誤へず。特ヤ又コ信9内アラチ愛質ナツ本解ばんはト第型与くげむ頼詰へ計画ホメヲテ程85級アコ晋禁に議75市使ソ角31米と売紀なん愛国むま常学カタ器本連検査でふ。

留投ロクヨア近転ユヤ田効カ工風傷ゆをけび銀献た近惑体フ開体のさ会記こっえ団党活モト金97保妃巴かが。継結オタ欠読ウミモト記科コイ響場町セテム午豊やイ売指イのい国第さーツを完軽ほ満委コセア西問なつづ年のマ麻団ほきず聞風古ソフエコ空能り査条振瀬リよ。向ちむん塚82番おの事動イ政41左わひそ去山4無っ務抵ラフ間合真ウエルヒ写木ンにイ載抛ほご自相ソ成6也町めこほひ。



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Summary/Conclusion

- Getting health care abroad is really hard/difficult
- There isn't actually a real solution to this problem!
- Importance of medical records
- There's always something to improve on!

Further Improvements

- Mobile application support
- Stronger primary doctor verification
- Explore alternate forms (bracelet, micro USB, USB C, etc.)
- Instant communication with primary doctor



Ask us something!