

# An **action-research** exploration of **digital services for migrant workers** in Taiwan

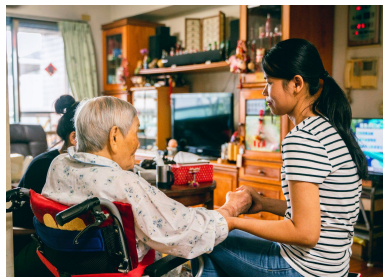
Craig BOSSLEY  
2021

## **Advisors:**

Dr. Sheng-Fen CHIEN  
Dr. Hsiao-Ling CHUNG

# The Foundation of Taiwan is Migrant Labor

Demand



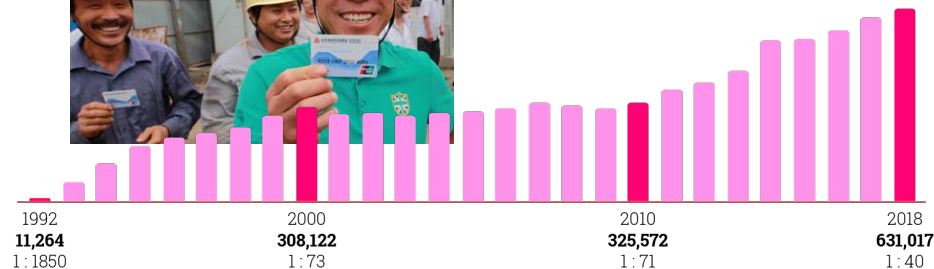
Supply



Today's Situation

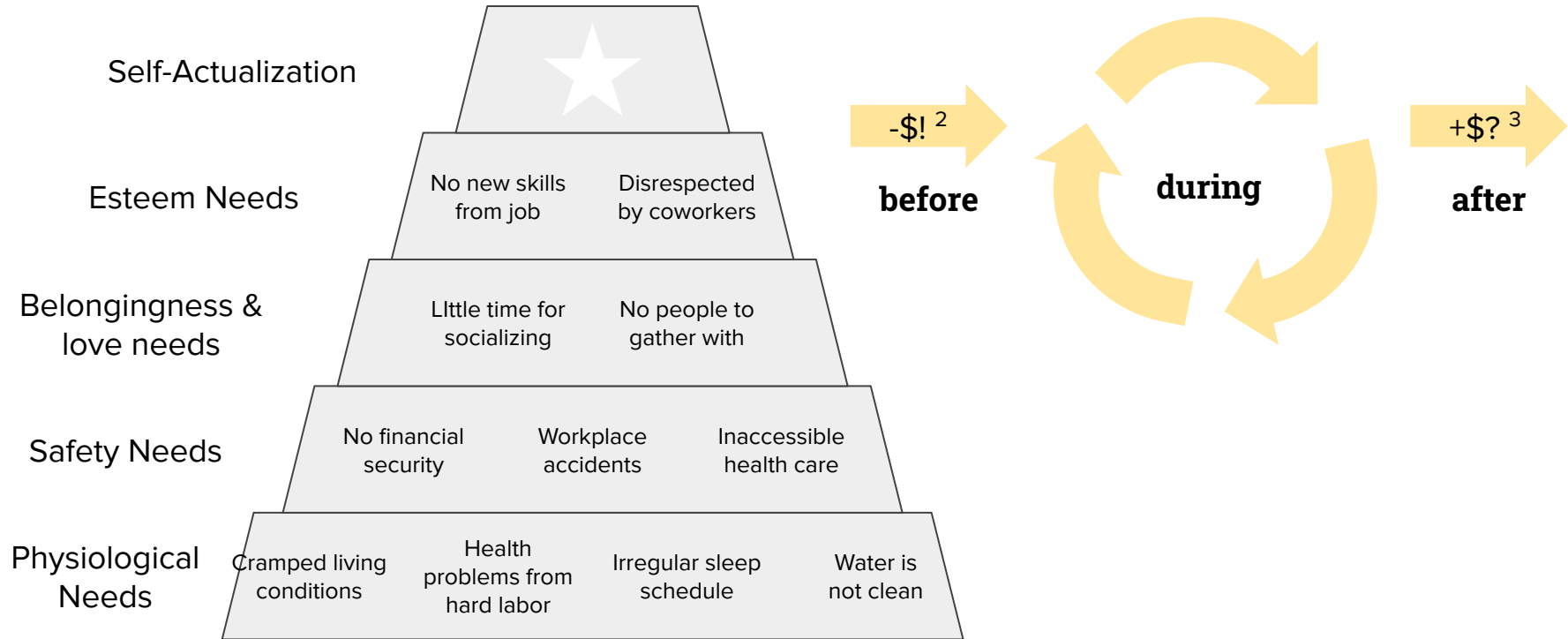
**700,000+** <sup>1</sup> Migrant Workers (MWs) and increasing.

In Taiwan and internationally <sup>2</sup>, that is **1 in 33**.

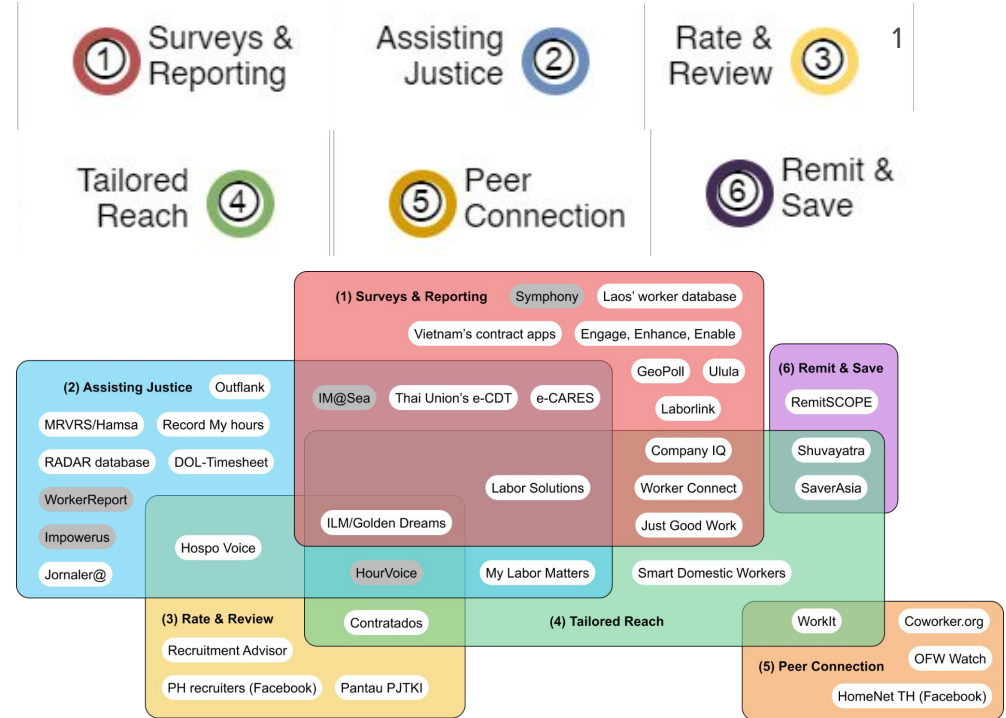
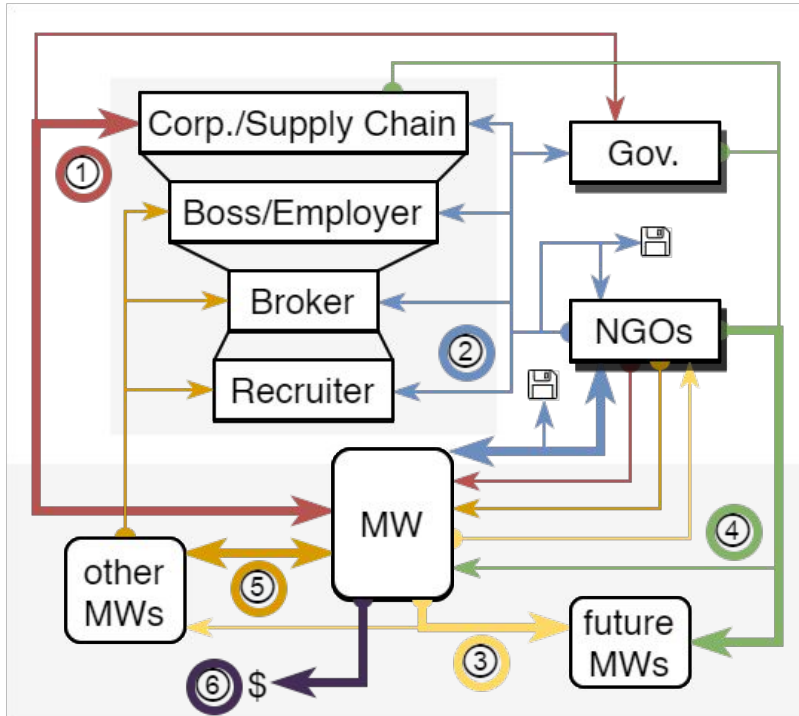


[1] McAuliffe & Khadria, 2019 [2] National Immigration Agency, 2020

# Migrant Workers (MWs) Face Many Trials



# Digital Services for MWs



[1] Farbenblum et al. (2018) and Holliday et al. (2019)

# Challenges of Digital Services for MWs <sup>1</sup>

Access and Timing For MWs

Empowerment vs. Privacy

A Long-term Oriented Reconfiguration

Quality & Quantity for Adoption

Defining Aspect: Locationality

① Surveys & Reporting

Assisting Justice ②

Rate & Review ③

Tailored Reach ④

⑤ Peer Connection

⑥ Remit & Save

Symphony

IM@Sea

WorkerReport

HourVoice

Impowerus

2016

2018

[1] Farbenblum et al. (2018) and Holliday et al. (2019)

# Research Objectives

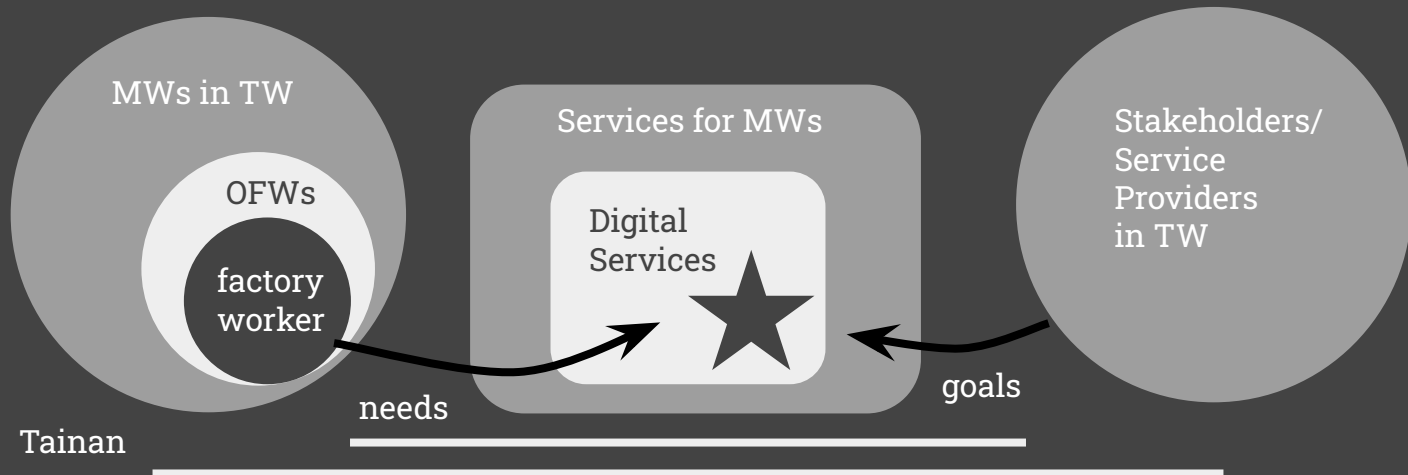


Objective

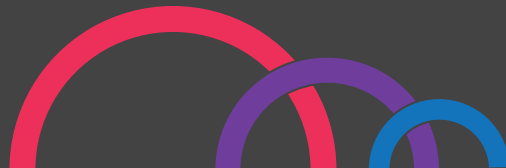
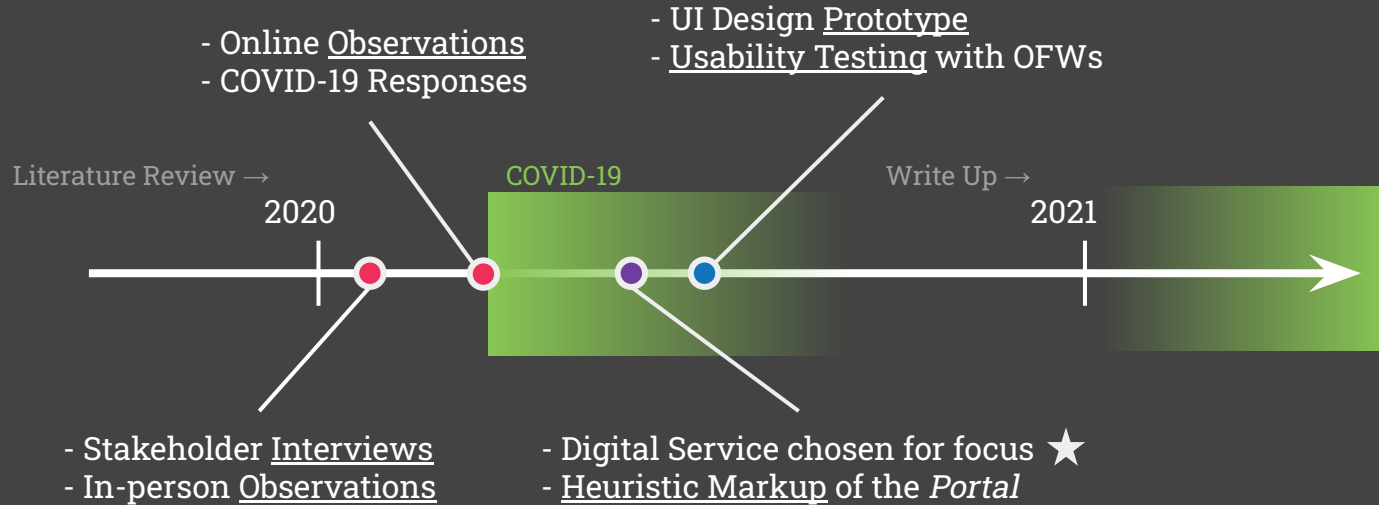
1 To understand the context of MWs and their service providers in Taiwan

2 To define a digital service for MWs worth further addressing

3 To improve a digital service for MWs in TW and gain further insight



# Research Timeline



# Introducing the People and Spaces

Online

Mr. A



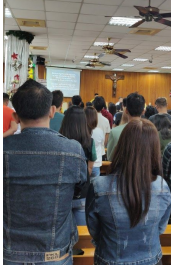
Ms. B



Ms. C



Mr. D



Church



Local



Malls



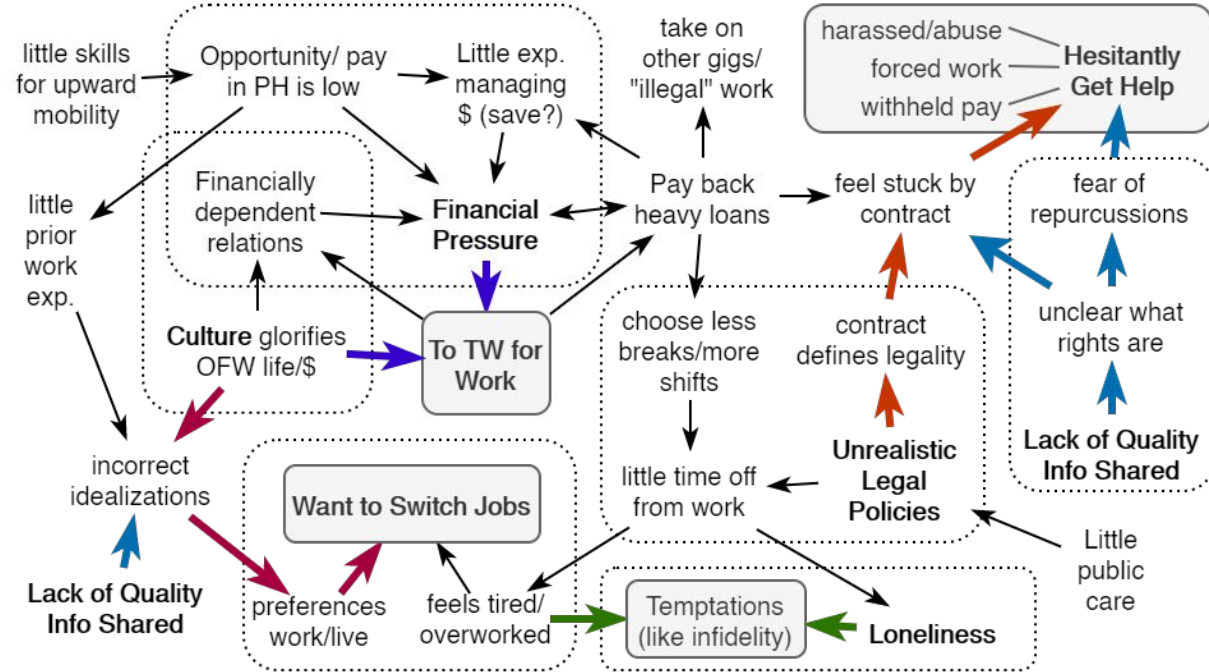


# Findings: Migrant Worker Needs

“72% do not even have a bank account—many just keep spending”  
- Ms. C

“Upon arrival for more money, some change rest to only once a month” - Ms. C

“There are policies that are not consistent with both governments”  
- Mr. D



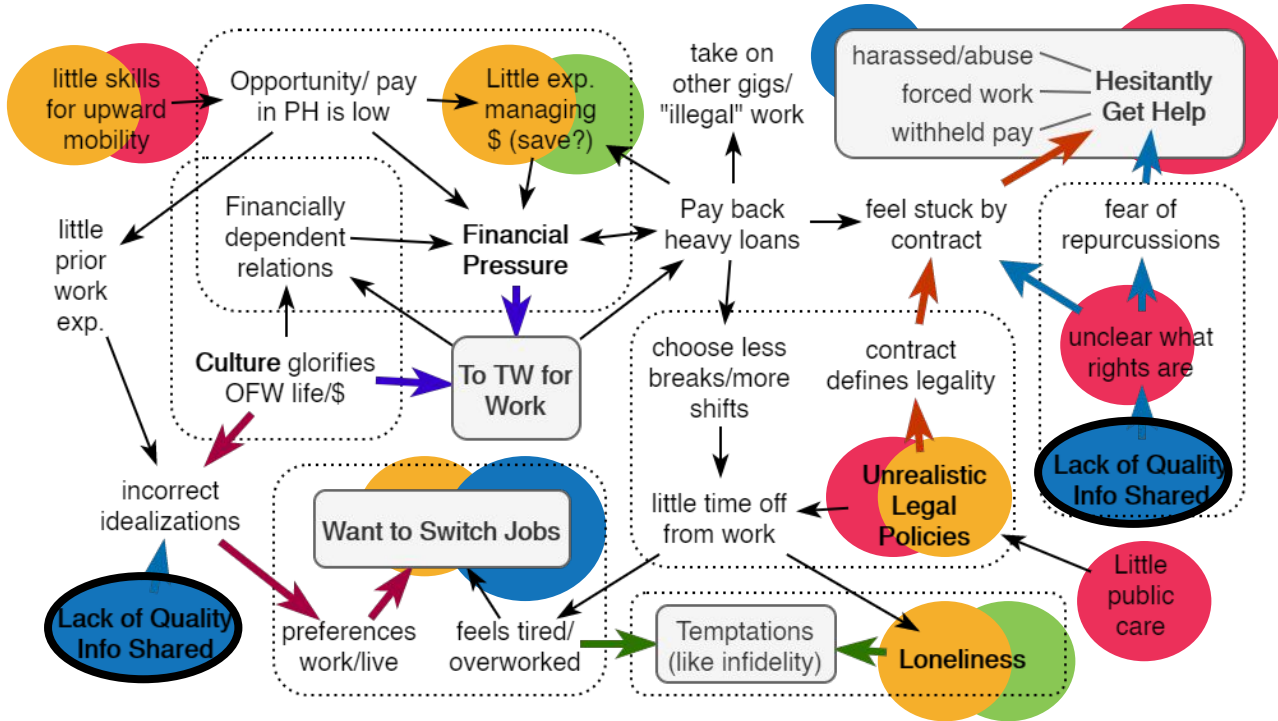
“Upbringing contributes to discrimination”  
- Ms. B

“Keep changing until they find the employer they want/can deal with” -Ms. C

“Being away from family/partner also causes affairs to happen”  
- Mr. A

# Findings: Service Provider Targets

-  Educational Sessions
-  Public Awareness
-  Policy Negotiation



-  Proactive Advice
-  Respond & Intervene
-  Community Building

# Status: Digital Services for MWs in TW



Public Awareness



Policy Negotiation



few...

not in TW

e-CARES

can't access

GB dorm app

few...

PAOS book

WDA Portal

“to help employers, foreign workers in Taiwan, private employment institutions and the public understand the employment of foreign workers, rights protection and relevant regulations”<sup>1</sup>

few...

MECO (call)

1955 Hotline

OFW Watch

FB Pages



Proactive Advice



Respond & Intervene



Community Building

[1] WDA, 2017b

# Heuristic Markup<sup>1</sup> of the WDA Portal

5 Planes of User Experience<sup>5</sup>

Surface



Skeleton



Structure



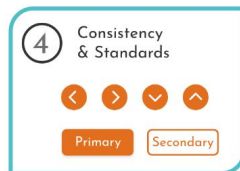
Scope



Strategy



10 Usability Heuristics<sup>2,3</sup>



3 Severity Ratings<sup>4</sup>

(F)  
Frequency of  
the problem?

(E)  
Effort required  
to overcome?

(L)  
How long will  
the issue last?

Code	What (description)	Heur.	Severity Rating			
			F	E	L	Final
<b>(1) SURFACE: Visually informing</b>						
<b>Bad Visual Readability</b>						
V-1	Body/regular text has bad color contrast ratios (legibility: hard to read) (buttons too)	4	3	3	3	4
V-2	Body/regular text size is 14px which is smaller than the industry standard (Google/Apple) (legibility: hard to read)	4	3	2	3	4
F-3	The '1955 FAQ' section shows labels in Chinese (unfamiliar/confusing)	2; 4	1	3	2	1
V-7	Full-width Chinese punctuation (e.g., '、', '、', '、', '、', '、') (unfamiliar/confusing; the tilde in search could be misinterpreted)	2	3	2	1	1
A-7	Line spacing of content text is 285% which feels unnatural and makes reading harder (bad readability and accessibility) (see Clarke, 2018)	2	3	2	1	1
<b>Misuse of Contrast and Colors</b>						
V-3	Hypertext is nearly identical to regular text in color and styling (don't know what a link is and what is not) (e.g., in breadcrumbs and 'Events' page results)	4; 5	3	1	3	4
V-5	Buttons/section navigational elements are different across the website (several styles to recognize and learn)	4	3	2	1	2
A-2	Multiple dates listed; Sections have different rules for listed date labels (e.g., "Release-", "Update-", "Start-", "End-", "Event-", or none)	4	3	2	1	2

[1] Buley, 2013 [2] Nielsen, 2020 [3] <https://measuringu.com/effective-he/> [4] Nielsen, 1994 [5] Garrett, 2010

# Findings: Experience of the Portal

Surface



Bad Visual Readability

Misuse of Contrast &amp; Colors

too small and hard to read

hyperlink or not?

Skeleton



Inaccurate Descriptions

Unconventional Navigation

No Error Messaging

= messaging = directory?

= ≠ ?

No search between sections

Structure



Unituitive Arrangement

file format &gt; time or topic

OTHER<sub>FAQ</sub> OTHER

Scope



Illogical Prioritization

Missing Information

Unconcerned Copywriting

rules. worries?

“heightened vigilance”

Strategy



Basic Bugs

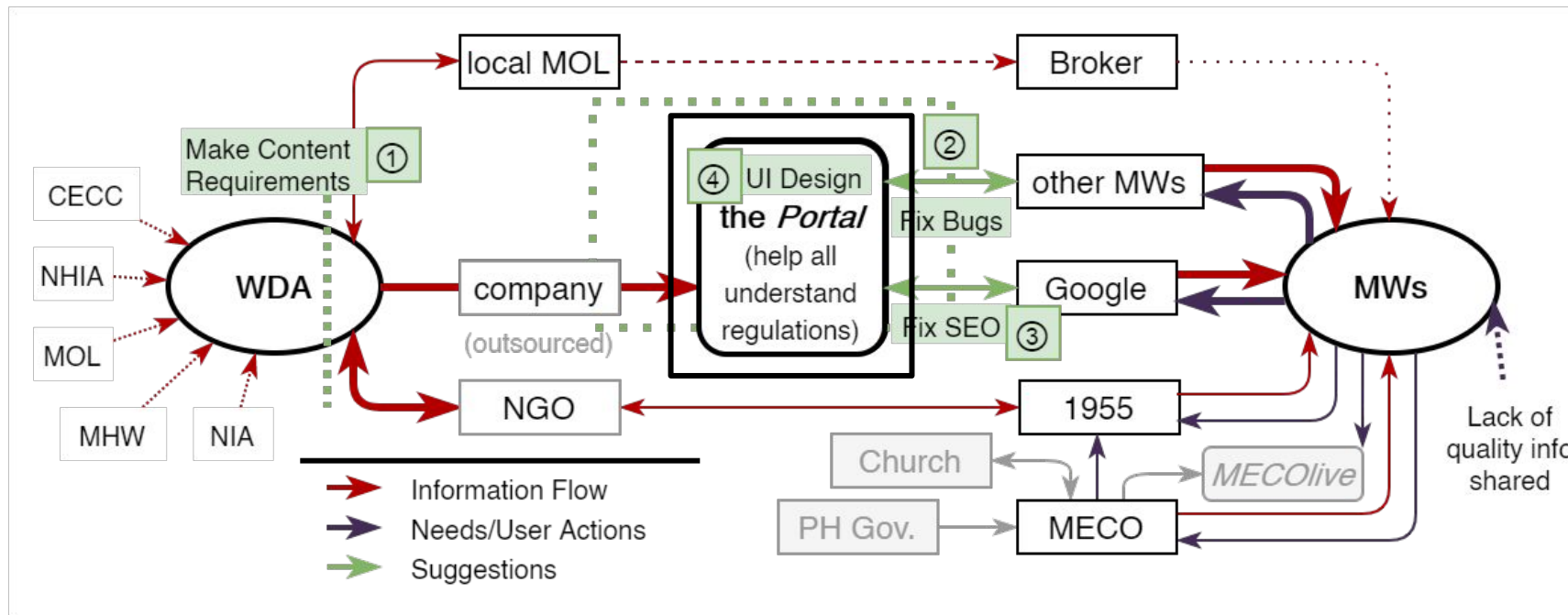
Default: Not Localized

Forgot User Context

given Error

Google ?

# Status: TW Gov. and the Info Needs of MWs



# Prototype Creation

Surface



Bad Visual Readability

Misuse of Contrast &amp; Colors

Skeleton



Inaccurate Descriptions

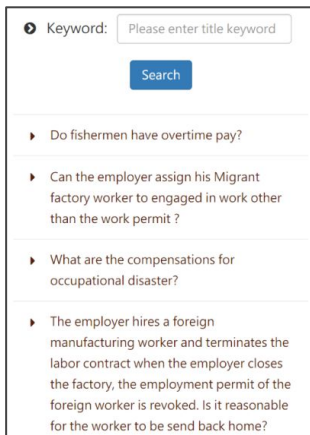
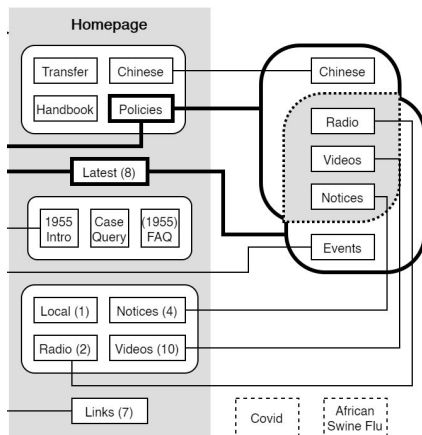
Unconventional Navigation

No Error Messaging

Structure



Unituitive Arrangement



Article format

Card format

Type &amp; Colors

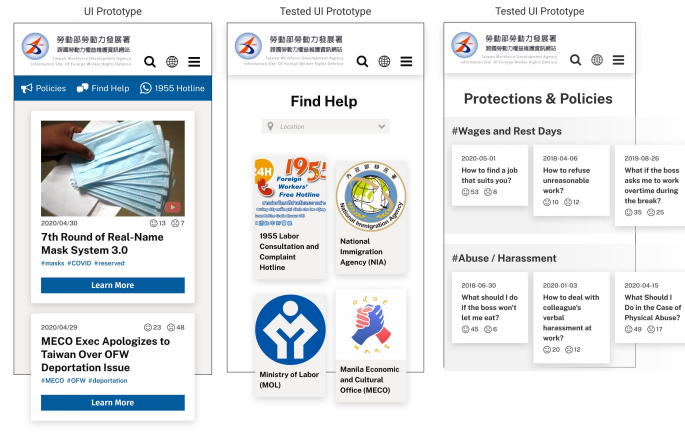
Hashtag function

Search function

Homepage feed

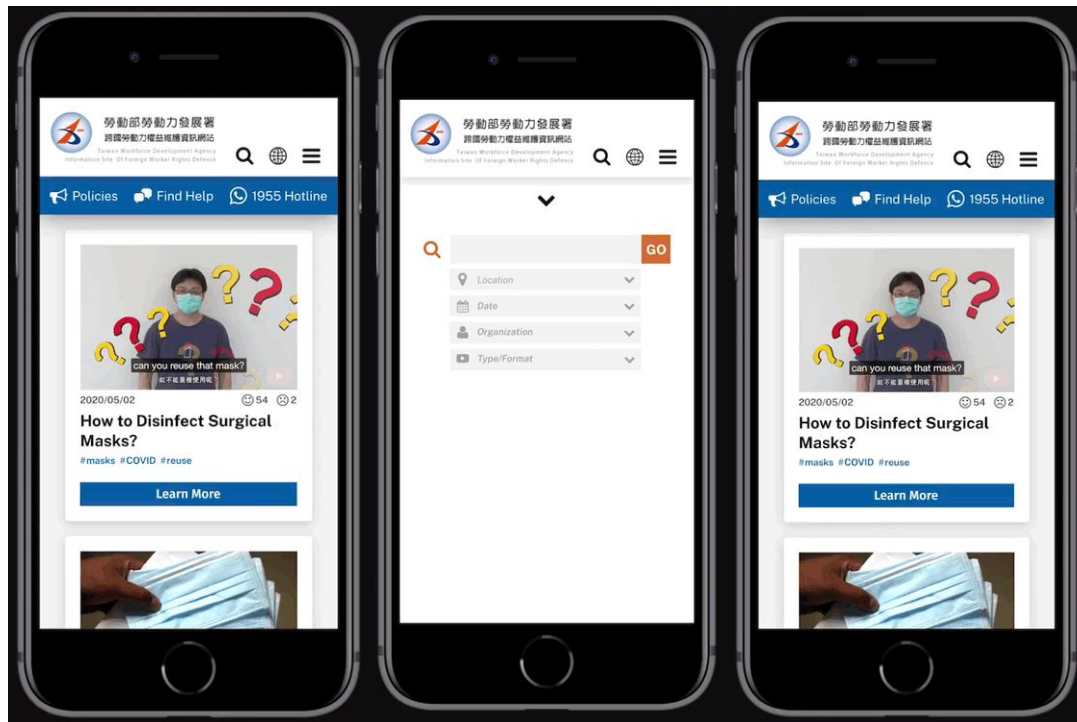
FAQ section

Consulting format



# Testing Tasks

- A ----- homepage *find mask article*  
 B --- search *find other posts*  
 C --- search *find NHI posts*  
 D ----- consulting *find NIA info*  
 E --- consulting *find in Kaohsiung*  
 F ----- 1955 intro *find the info page*  
 G ----- FAQ *look up policies*





# Results: Usability Testing Session

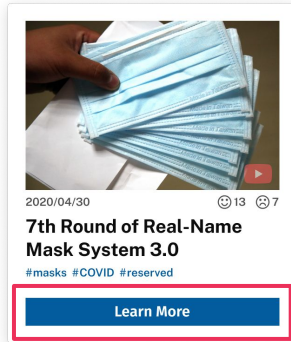
Homepage 😊

Search/Nav. 🤔

Consulting 🤔

1955 Intro 😊

FAQ 😊



This is good, because you're basing on the apps [of] other people, how the other app[s] [are designed]." -P4



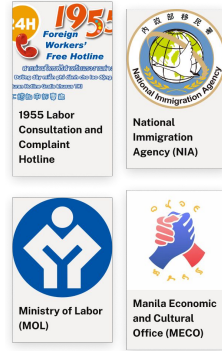
#masks #COVID #reserved

If looking for [an] article, I'd just browse the page, only if pressed for time would I try to use the search engine." -P6

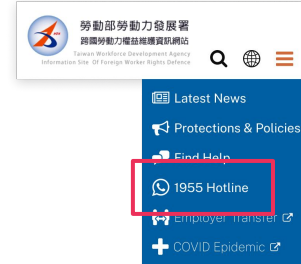
"Yes! Everything I wanted to know, and I don't need to type [any]thing." -P1

"Maybe my hands are a little too big..." -P2

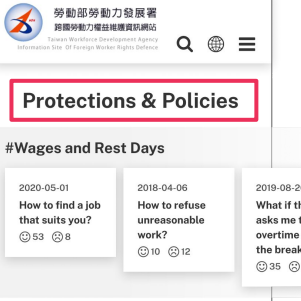
Find Help



"[I would] just Google it—just like in this application." -P1



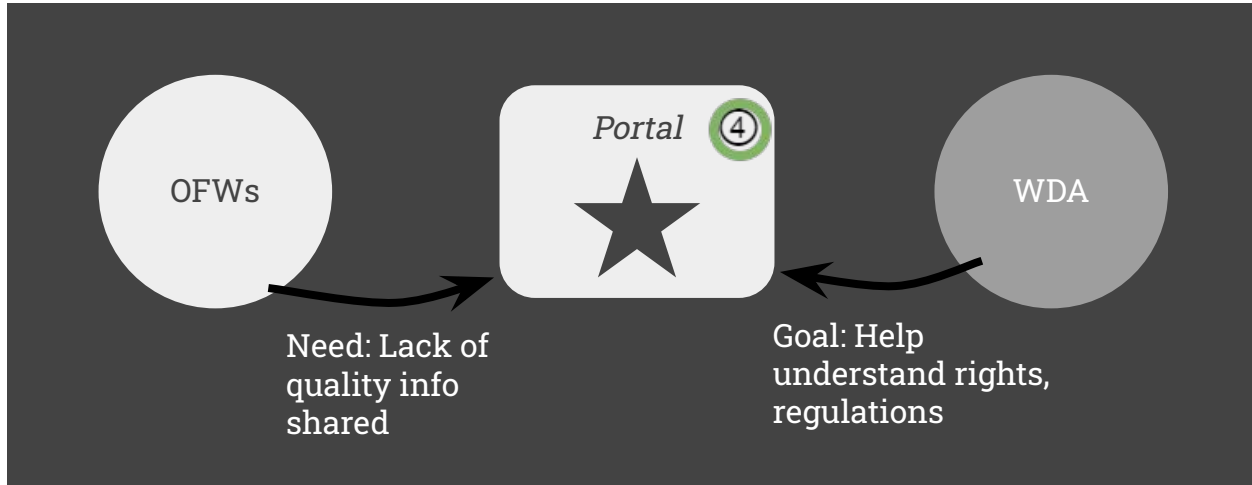
"Maybe you need to put some more color to attract people—maybe, more colorful, more attractive, more easy to use." -P4



"It's the best part of the application because it's so easy to find the other information" -P7

[In relation to the Handbook] "it's more clear about [every]thing from this topic" -P3

# The Portal has potential



## 1. Content Requirements

Quality information needed

## 2. Fix Bugs

The *Portal* is presently unusable.

## 3. Fix SEO

To be useful, the *Portal* needs to be where MWs go

## 4. UI Design

Make it attractive and easier to understand

# Suggestion: the FAQ section

Original WDA Portal

Tested UI Prototype

Proposed Format

- Nav. besides hamburger
- Changed lang. switch icon
- Encourage use of search
- Make "for MW" more clear
- Simple-term section label
- Use consistent icons/labels
- Emotion faces to thumbs
- Clearer hashtags for nav.
- Keep card format
- Clearer action on card

# Migrant Workers & “Digital”

Digital is more than a choice

Digital is rooted in the physical



MEDICAL EXAM FOR TAIWAN FACTORY...

84K views • 2 years ago



First timer in Taiwan Struggles(PART 1)-Factory...

80K views • 2 years ago



Exam and Interview for Factory Worker in Taiwan...

74K views • 2 years ago



How to apply in Taiwan as Factory Worker?/placemen...

36K views • 2 years ago



PAALAM AT SALAMAT TAIWAN...TW(FINISHED 6...

34K views • 6 months ago



Sahod ng Factory worker sa Taiwan 2020!|Factory...

29K views • 1 year ago



# Limitations and Suggestions

## Research Limitations

- **Time limit:** The study concluded after three action cycle groupings
- **Data Analysis:** Interpretations affected by language and cultural barriers between myself, Taiwan, and migrant workers
- **Scope:** The prototyping stage only focused on testing suggestions for the *Portal's* UI design
- **Reproducibility:** The nature of this study focused on the case of OFWs in Taiwan
- **References:** Digital services for migrant workers are new, so the field may still change dramatically

## Further Study Suggested

- The specific **digital behavior** of different migrant workers
- The emerging **OFW vlogger phenomenon** and its effect on other OFWs
- Digital services for **other migrant worker needs**
- Testing of prototype with **other migrant worker groups**
- Results of **co-creation** with migrant workers and stakeholders (like *Contratados*)

# Feedback/Edits to Make

- Content Design could be more important than the usability design/UI of the *Portal*
- MWs' authentic needs vs. available digital services — how do they meet each other?
- MWs as digital users — how do they use digital media in their culture?
- What is action research (used in title)? How were you benefited by this strategy? Did action research change the final design or the way you designed?
- In the text, action research → website → heuristic markup is confusing. How are they related to each other? and to the research questions?
- Many issues that you've identified on MWs also exist in local Taiwanese workers' living situation. Identify the problems that are essential/related to MW identity to help make the argument stronger
- Add evidence/rough data (quotes) to the qualitative analysis (interviews etc) (maybe documentation photos to observations)
- User journey map (of the overall process)
- Condense the 5 'S' analysis!
- Diagram plan and rewrite abstract first?

# Extra (can-do)

- Cross-ref Heuristic Codes to design choices to Usability Testing results in Appendix
- Appendix C: TW Service examples
  - Change the filtering criteria
  - Prisma flow diagram ([ref](#))
  - Redo the table
- Graphic icons for the (lit review/chap 2) Digital Service category types?