160 million migrant workers
Migrants rely on the support of over 2 million Chinese NGOs.
“Trojan horses stuffed full of Western liberal ideas first subverting and then overthrowing the regime.”

The Economist, “Enter the Chinese NGO,” April 12, 2014.
Strategies for Reducing Suspicion

“ [...] Mr Zhu’s organization regularly submits monthly or quarterly work reports to the local Labor Bureau [...] In return, its applications to organize public activities are usually approved very quickly.”

Theory of Change:
How Chinese NGOs Achieve Legitimacy

- Pre-emptively communicate work
- Show alignment with government
- Reach more migrant workers
Leveraging Helplines to Capture Data

- Mobile-based helplines are prevalent across NGOs
- They are a unique opportunity for collecting data
Android app for conversation logging
Android Mobile App
Helpline Conversation Logging

1. Injured worker
   Conversation
   NGO Staff

2. Log call details
   NGO Staff
System Overview

Web Server

Android App

Web App

Reports
通话流量

总通话量 105
纪录量 42
纪录比率 41%

通话流量

2月18日 2月25日 3月5日 3月12日 3月19日

纪录量

2月18日 2月25日 3月5日 3月12日 3月19日

纪录比率

2月18日 2月25日 3月5日 3月12日 3月19日

Web application
RESEARCH
Field Site Research
Field Site Research
NGO staff are often on the go, visiting hospitals and courts.
Free-form text entry makes data analysis difficult
- Hard to log on the go
- Paper gets lost
- Potential privacy concerns
Card sorting exercise to uncover information needs.
<table>
<thead>
<tr>
<th>Mobility</th>
<th>Our design needs to be mobile-first.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Structure</td>
<td>Data needs to be structured the moment that it is being collected.</td>
</tr>
<tr>
<td>Privacy</td>
<td>Our design needs to improve upon what currently exists.</td>
</tr>
<tr>
<td>Accessibility</td>
<td>Our design needs to cater to NGO staff who are sometimes injured workers themselves and suffer from hand injuries.</td>
</tr>
</tbody>
</table>
DEMO
Designing for fast and accessible data entry
Information Hierarchy

Call Meta Data

Call Date, Duration etc. logged behind the scenes

Caller Demographics

Demographic Factors e.g. age, gender

Demographic Factors Options e.g. male, female

Caller Needs

Need Categories e.g. Injury Severity Evaluation

Need Category Details e.g. Level 4 Severity
Extensibility Considerations
Information architecture gone bad
Extensibility tradeoff:
○ Customized forms are **not** scalable
○ Generalized forms are **not** useful

Templating as a balanced solution:
○ Extensible data model with crowdsourced templates
## Competitor Analysis

<table>
<thead>
<tr>
<th>Feature</th>
<th>iCarol</th>
<th>CRMs</th>
<th>ODK</th>
<th>TIRO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobile</td>
<td>✗</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Language</td>
<td>✗</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Caller Need Templates</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td>✓</td>
</tr>
<tr>
<td>Phone Integration</td>
<td>✓</td>
<td>✓</td>
<td>✗</td>
<td>✓</td>
</tr>
<tr>
<td>Monthly Cost</td>
<td>$$</td>
<td>$$$</td>
<td>-</td>
<td>$</td>
</tr>
</tbody>
</table>
1-year Pilot Test

One NGO in Guangdong now

6 more NGOs expressing interest
Measuring Success

Is the NGO using the tool?
Percent of helpline calls logged

Can the NGO quantify its work?
Number/quality of metrics for describing and analyzing the NGO’s operations

Can the NGO communicate its work?
Efficacy of reports generated to share with government or donors
THANK YOU
QUESTIONS?
APPENDIX
APPENDIX:
PRODUCT
Privacy

- User access controls
  - Don’t allow mass export
  - Rate limiter to prevent access abuse

- Minimizing data collection
  - Don’t collect names
  - Hash phone numbers
Data Model

CALLS
- id
- caller_id
- datetime
- duration
- type
- need_detail_id

NEED_DETAILS
- id
- name
- need_id

CALL_NEEDS
- id
- call_id
- need_detail_id

TEMPLE_NEEDS
- id
- template_id
- need_detail_id

TEMPLATES
- id
- name
- datetime
- duration
- type
- template_id

TEMPLATE_DEMOGRAPHICS
- id
- template_id
- demographic_factor_option_id

DEMOGRAPHICS
- id
- caller_id
- factor_option_id

DEMOGRAPHIC_FACTORS
- id
- factor_id
- option

DEMOGRAPHIC_FACTOR_OPTIONS
- id
- option_id
- name
谘询内容

<table>
<thead>
<tr>
<th>内容</th>
<th>通话次数 / 百分比</th>
</tr>
</thead>
<tbody>
<tr>
<td>伤残鉴定</td>
<td>42 通话 / 43%</td>
</tr>
<tr>
<td>工伤认定</td>
<td>35 通话 / 26%</td>
</tr>
<tr>
<td>劳动关系证明</td>
<td>12 通话 / 19%</td>
</tr>
<tr>
<td>工资证明</td>
<td>6 通话 / 15%</td>
</tr>
<tr>
<td>治疗期间</td>
<td>3 通话 / 5%</td>
</tr>
<tr>
<td>社会保险</td>
<td>2 通话 / 3%</td>
</tr>
</tbody>
</table>

Web Application
APPENDIX: COMPETITORS AND REVENUE MODEL
Existing Solutions

General CRM Solutions

Helpline CRMs

Data collection tools
iCarol

Base
Revenue Model

subscription-based service with **two-tiered pricing**

<table>
<thead>
<tr>
<th>Small NGOs (&lt;10 employees)</th>
<th>$5 USD / month / organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medium to Large NGOs</td>
<td>$30 USD / month / organization</td>
</tr>
</tbody>
</table>

**Projected revenues**

<table>
<thead>
<tr>
<th>Year</th>
<th>Revenues</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016 (pilot)</td>
<td>-$10,000 USD</td>
</tr>
<tr>
<td>2017 (1st year after pilot)</td>
<td>-$12,000 USD</td>
</tr>
<tr>
<td>2018 (2nd year after pilot)</td>
<td>$53,400.00 USD</td>
</tr>
<tr>
<td>2019 (3rd year after pilot)</td>
<td>$121,800.00 USD</td>
</tr>
</tbody>
</table>
APPENDIX: RESEARCH
Logging During Versus After

“No, [To on-screen guidance during the call]. Typically client calls involve unique situations and requires active listening on advocate’s part. So we do not rely on technology at this point to respond.”

Founder, MAITRI.org
单独列出一个选项可以有针对性地进行统计

劳动关系证明

无劳动合同
无厂牌
无工友证明

取消 确认

年龄分段的设计省去了后续统计

选项存在有点鸡肋，通点很难发了解工厂雇主类型
Field Site Research
Research Challenges

- Language and cultural interface considerations
- CPHS and project implications: cannot collect data on vulnerable subjects
Research Challenges

● Poor internet connectivity
  ○ 11.5 mb/s average in US
  ○ 3.8 mb/s in China

● Chinese censorship
  ○ InVision sharing feature is blocked in China

● Video-conferencing tools
  ○ QQ is the most popular tool for video sharing in China, but the tool is not very usable