Workforce | Health Tracker Application

Overview

We are all aware and grateful for the contributions of the workforce across the public and private sectors.

While most of the workforce self-report COVID-19 related symptoms and/or are taking precautions to the best of their abilities, it is critical to ensure their health is monitored daily and technology can play a huge role to facilitate this process. The Workforce Health Tracker application has been developed to ensure that the health of the staff across any organization is continued to be prioritized on a daily basis before they start with their work for the day.

The *Workforce Health Tracker Application (WHT),* is is a Mobile responsive survey driven Web-based application, developed to create visibility to daily monitor and track the health of the workforce. This will enable the administration/managers to make decisions around who should come to work and who should remain at home to take care of their health. This is necessary to ensure the staff is quarantined, tested, or treated promptly. This will also provide real-time visibility to optimize the deployment of staff at the workplace.

User Groups: The application is available in open source and can be used by anyone for their workforce across all industries and sectors, across the public and private sectors.

Key Functionality and Features

The WHT can report their symptoms (associated with COVID-19, can be configured for other diseases) daily, before heading to work, by updating a symptom-checker survey web link shared with them via Whatsapp/email/telegram/SMS (as per the preference specified), automatically generated by the application. The Hospital administrators/ managers can use the dashboard to view the health of their staff and call and update the health status of the staff directly in case the survey has not been filled in for the day. You can view a quick demo of the application here.

1. *Easy to set-up and use*
    - Dashboard available on Web-browser (no installation required) or as a mobile application
    - Flexibility to import/manually add staff members, create user groups
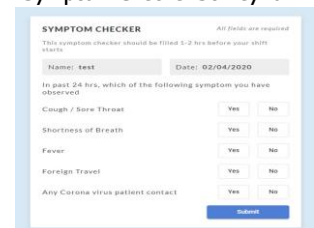   - Bi-lingual: currently available in Hindi and English
2. *Automated survey messages and messages on the next steps*
    - Simple and short web-based online symptom checker survey
    - Uniquely identifiable, daily automated msg. with survey link that can be sent via Whatsapp, SMS, email, telegram
    - Flexibility provided to managers to update health status on the dashboard even via telephonic conversations
3. *User-friendly dashboards*
    - Dashboard views available at different facility levels/hierarchy – with the flexibility to customize these views
    - Automatically flagged high-risk staff members based on age, comorbidities, immunodeficiencies

Symptom Checker Survey form

Dashboard view for Managers/Hospital Admin

- Pre-defined filters to classify staff members who should stay home or go to work or need a follow-up check-in in the pre-defined period of time
- The manager has the right to override status for concerned staff
- View key staff information along with survey results of last 14 days
- Flexible search capabilities by name, facility type, etc.
- Role-based access controls assigned

4. *Privacy, security, technology, and infrastructure*
    - The scalable multi-tenant solution, cloud and data center agnostic, built using open source technologies, completely self-managed solution
    - Technology stack:
        o Frontend: HTML5, CSS3, Javascript, Angular, Material Design, Font Awesome Icons
        o Backend: Python 3.6+, Django, Django REST Framework
        o Database: MySQL
        o WebServer: Apache
    - Daily backups are taken
    - Data encryption is done at rest and transit – PHI and PII also encrypted, any health-related information e.g. survey answers submit or specific details around immunodeficiency or co-morbidities are not shown on the dashboard and this information is encrypted at the backend
    - Consent:
        o OTP based verification each time the survey link is sent for data collection of symptoms and even collection of health details e.g. immunodeficiency or co-morbidities

5. *Customizations possible include:*
    - Configuring User Groups
    - Ability to add multiple managers to a group
    - Ability to administer the system at a tenant level
    - Configure worker status and tooltip text
    - Configuring User Group to Care worker Type mapping
    - Configuring User Group to Survey Questions
    - Configuring pre-existing diseases
    - Configuring Immunodeficient diseases
    - Ability to customize filters across user groups
    - Bulk import of users is possible
    - Integration with Whatsapp, email, SMS, Telegram is possible
    - Ability to support multiple (LTR) languages like English, Hindi, Bengali, etc.
    - Ability to support bi-directional API integrations

6. *Semantic Interoperability*
    - The application is Meta Data and Data Standards (MDDS) and International Statistical Classification of Diseases and Related Health Problems 10th Revision (ICD 10) standards-compliant to ensure semantic interoperability

7. Open Source: https://www.workforcehealthtracker.in
    - The application is open source and the code is available under Apache 2.0 License
        i. The repository is available at https://github.com/beehyv/workforcehealthtracker
        ii. The license is available at https://github.com/beehyv/workforcehealthtracker/blob/master/LICENSE

Requirements to setup

Some of the key requirements to ensure a smooth setup and rollout would include obtaining:

- Database of users, user types, hierarchy (to import/add)
- Whatsapp Business Account
- Email server details
- SMS provider API details
- Telegram Bot API
- Triaging logic for assessment survey
- Local language support for translations
- Local hosting/infrastructure support
- Support on preparing multi-channel communication templates and the corresponding schedule