

Ideation Phase

Empathize & Discover

Date	29 April 2023
Team ID	NM2023TMID00069
Project Name	COVID-19 Detection from Lung X-rays with Deep Learnings
Maximum Marks	4 Marks

Empathy Map Canvas:

An empathy map is a simple, easy-to-digest visual that captures knowledge about a user's behaviours and attitudes.

It is a useful tool to help teams better understand their users.

Creating an effective solution requires understanding the true problem and the person who is experiencing it. The exercise of creating the map helps participants consider things from the user's perspective along with his or her goals and challenges.

Most prior studies focused on developing models for the severity or mortality prediction of COVID-19 patients. However, effective models for recovery-time prediction are still lacking. Here, we present a deep learning solution named iCOVID that can successfully predict the recovery-time of COVID-19 patients based on predefined treatment schemes and heterogeneous multimodal patient information collected within 48 hours after admission. Meanwhile, an interpretable mechanism termed FSR is integrated into iCOVID to reveal the features greatly affecting the prediction of each patient. Data from a total of 3008 patients were collected from three hospitals in Wuhan, China, for large-scale verification. The experiments demonstrate that iCOVID can achieve a time-dependent concordance index of 74.9% (95% CI: 73.6-76.3%) and an average day error of 4.4 days (95% CI: 4.2-4.6 days). Our study reveals that treatment schemes, age, symptoms, comorbidities, and biomarkers are highly related to recovery-time predictions.

Empathy Map for Covid-19



