Catalyzed & Supported by
NSTEDB DIVISION
विज्ञान एवं प्रौद्योगिकी विभाग
DEPARTMENT OF
SCIENCE & TECHNOLOGY

ciba
Centre for Incubation and Business Acceleration

ARC
AGNEL ROBOTICS CLUB

HACK-IT-OUT

In association with CIBA & ARC

PROBLEM STATEMENTS

Healthcare

impact
Get Fit. Do Good.

1)Use computer vision + ML to build an instant yoga pose, workout type & rep detector using a phone's camera for video capture

Use case - A user does 10 push ups, 100 skips, a yoga tree pose and the app recognizes it exactly.

2)A mental wellness app that guides a meditation beginner through their mindful journey for 3 months

Use case- Gamification, Habit building and in app user journey

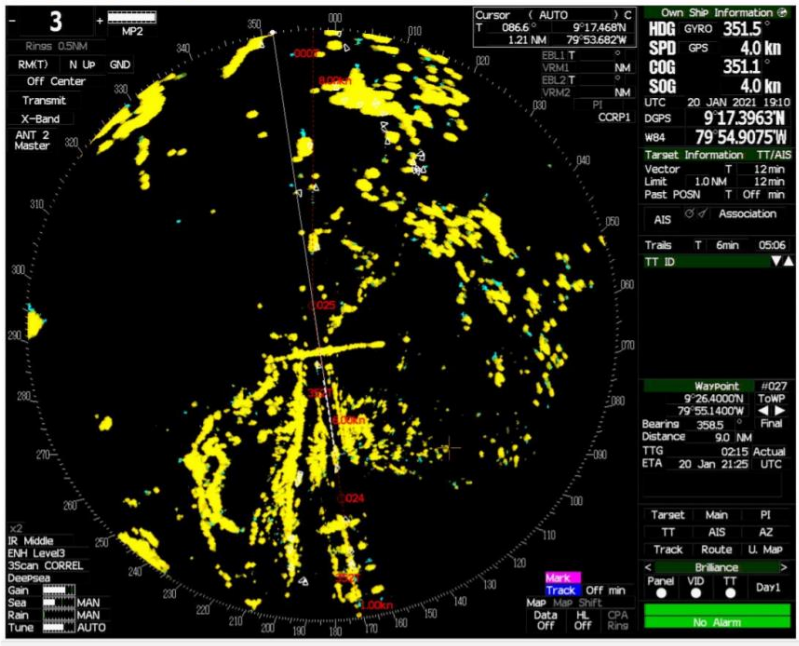
3)Build an at home workout app which can accurately track whether a user (who worked out) has actually exercised.

Key areas- workout videos, phone camera and accurate tracking

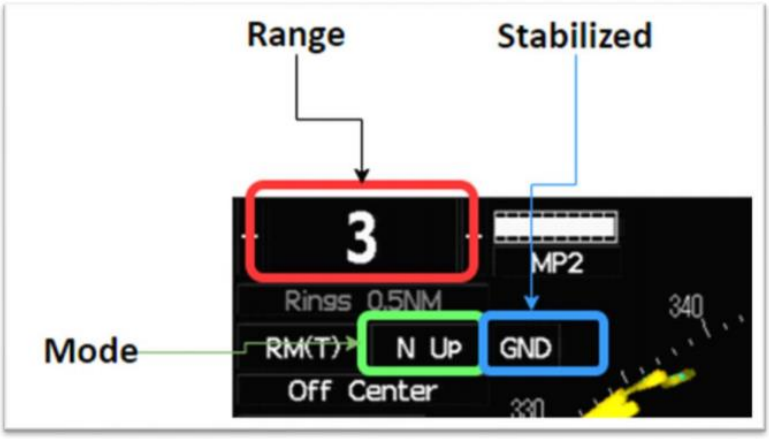
Shipping Industry

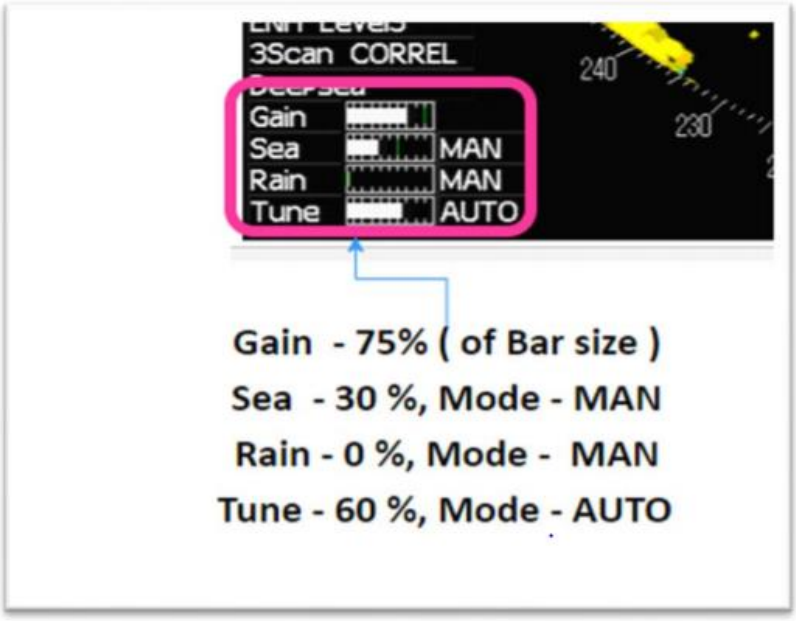
1) Fetch text from radar images by using machine learning model. There are lot of radar images collected from ship which has ship location and information related to a ship at that particular moment/time. Information is captured by equipment onboard the ship which gives output as image. These images we have to process and give output in flat file.
   Images data folder will be shared with participants which can be used to train the ML model. Model will be tested against new (similar) images which are not included in training data.

Sample Input Image



Sample Image Section with mark-up (Highlighting data which needs to be extracted)





Sample Flat File Content

1) Range = 3
2) Mode = N Up
3) Stabilized = GND
4) Off Centre = TRUE/FALSE
5) Gain = Percentage of the Bar = 75%
6) Sea = 30% Mode= MAN
7) Rain=%, Mode = MAN
8) Tune = 60%, Mode= AUTO
9) HDG = 351.5
10) SPD = 4.0
11) SOG=4.0
12) COG 351.1
13) UTC=20th Jan 2021 19:10 hrs

Target Information

14) Vector= T, Time=12 min,
15) Past Position = T, Time=Off

Smart Education

1)How do we take our business model across through technology in COVID-19 times where parents and schools are afraid and all students don't have access to electronic devices. The company deals in computer books for school children with a language lab, E-library, 3d audio visual and interactive digital boards with syllabus-based content in each classroom

2)How do we introduce artificial intelligence in a more meaningful way in times to come for education and classroom teaching

3)How do we make use of technology for sales & marketing and to conduct demo in schools across PAN India for meeting with principals, training in schools, etc. Keeping in mind the COVID-19 times

4)Our digital library software had e-books that are interactive in nature. The interactivity was brought upon by the use of Flash software. Now that all leading browsers have discontinued support to Flash made animations, all of our eBooks refuse to open in any leading browser. We have a repository of about 1000+ books and converting each of them to HTML5 and reanimating the books is an impossible task. We need your team to find us a solution to this problem using Adobe Animate, HTML5 or JavaScript whereby the output file is competent to run on any browser and we don't have to reanimate our books. Basically, using our current resources and setup we need the eBooks to run in a browser-based model which should not be able to be downloaded by the user. The solution should work both offline and online.