



Case Study: Labeling Biopsied Lesions in DBT Movies



Overview

Digital Breast Tomosynthesis (DBT) is a medical imaging technique used to look for breast cancer. A DBT movie is presented to a radiologist as a series of slices of the breast, each at a different depth. Our goal was to mark the lesions in these movies so our client could train algorithms to detect lesions and distinguish between cancerous and benign lesions.

Client Profile

Industry: Medical Software
Location: California, USA
Size: 50-100 employees

Company Bio

Our client is developing investigational physics-based artificial intelligence and deep machine learning solutions to help radiologists get more accurate readings of breast images.

” The quality and pace of our research depended on how quickly we could annotate more than 4000 mammograms. We trusted Mindy Support to handle this workload because of their ability to assemble teams quickly who are knowledgeable in the subject matter and have the utmost attention to detail.

— Client
VP Product Development

Challenge

Our team needed to annotate with bounding boxes approximately 4,000 mammogram with 2D and 3D biopsy studies that were extracted from multiple clinical sites. All mammograms were supported by radiologist notes that consisted of:

- a. Which breast the lesion was found in (left or right)
- b. The location of the lesion in the breast (e.g. depth, clock angle.)
- c. The type of lesion (e.g. mass, calcs.)

Human Resources

Our client wanted annotators without a medical background for this task. Therefore, Mindy Support built a team of one project manager, one team lead with 5+ years of medical experience, and four data annotators experienced in medical annotation.

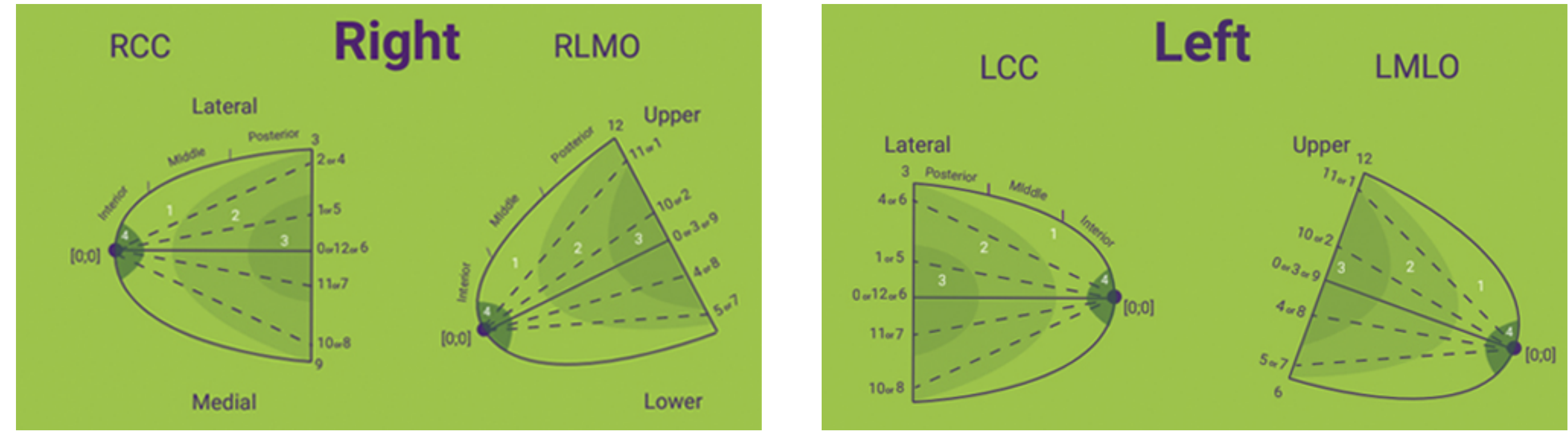
Tool



For this project, we used Three Palm Software Workstation One. We consider this tool to be one of the best on the market for reviewing and annotating digital mammograms with bounding boxes.

Solution Process

- To help annotators better understand the location of lesions, our operations team designed a scheme for both CC and LMO projections with zones and clock positions.

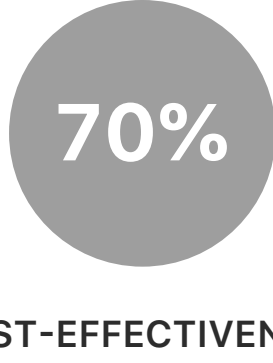


- The team processed about 200 studies per day, working five days a week in order to complete the whole task in one month.
- The annotations were checked by the team lead for final approval.

WE GET IT DONE

Results

- We detected two types of lesions: microcalcifications and architectural distortions.
- We reviewed and annotated 4,000 positive studies.
- Each annotator processed 50 studies working full time over 4 weeks.



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GDPR

We are committed to respecting all rights of data subjects under the General Data Protection Regulation (GDPR) (EU) 2016/679. According to Article 28 of the GDPR, the relationship between data controllers and data processors is regulated by a Data Processing Agreement, which we put in place with every client.



About Mindy Support

Mindy Support is an international brand with five offices across Ukraine. Since 2013, Mindy Support has been empowering companies all over the world by providing cost-efficient business process outsourcing with no compromise on quality. We build effective teams in customer care, marketing, sales, research, data processing, and annotation as well as provide back-office support for businesses of all sizes.

