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<div><div>IMPACT SIMULATION</div><div>Before release, the model will undergo rigorous validation on an independent test set to verify its accuracy, reliability, and stability. Deployment will proceed only after the model demonstrates strong performance and full compliance with fairness and transparency requirements. Given the healthcare setting, we require high precision for the target class (minimizing false positives), with the decision threshold selected to meet a predefined precision target.</div></div>	<div><div>MAKING PREDICTIONS</div><div><p>Predictions will be made on-demand, triggered whenever new or updated clinical data becomes available in the hospital database.</p><p>Real-time processing is not required, but timely inference will support the decision-making workflow.</p><p>All computations will be executed on-premises, using the existing hospital IT infrastructure to ensure data privacy and security.</p></div></div>	<div><div>BUILDING MODELS</div><div>Cardio Track ML system will use a single main model in production. Model updates will occur periodically as new data is integrated, or when a new version demonstrates statistically significant improvements in the key metrics: accuracy, precision, recall, and F1-score.</div></div>		<div><div>FEATURES</div><div><p>The Heart Failure Prediction Dataset already provides a complete set of clinical features, so there is no need to extract them directly from medical exams or diagnostic reports.</p><p>The dataset includes the following features: Age, Sex, ChestPainType, RestingBP, Cholesterol, FastingBS, RestingECG, MaxHR, ExerciseAngina, Oldpeak, and ST_Slope. These features capture key cardiovascular risk factors such as hypertension, diabetes, hyperlipidemia, obesity, and other pre-existing heart conditions, making the dataset suitable for the early heart failure diagnosis.</p></div></div>
		<div><div>MONITORING</div><div><p>After deployment, system performance will be continuously monitored to detect potential drifts or degradations over time. Key metrics include accuracy, sensitivity, specificity, and F1-score, reviewed at regular intervals.</p><p>Clinician feedback could also be collected to assess usability, clinical relevance, and practical impact, ensuring continuous model improvement and alignment with realworld medical needs.</p></div></div>		

