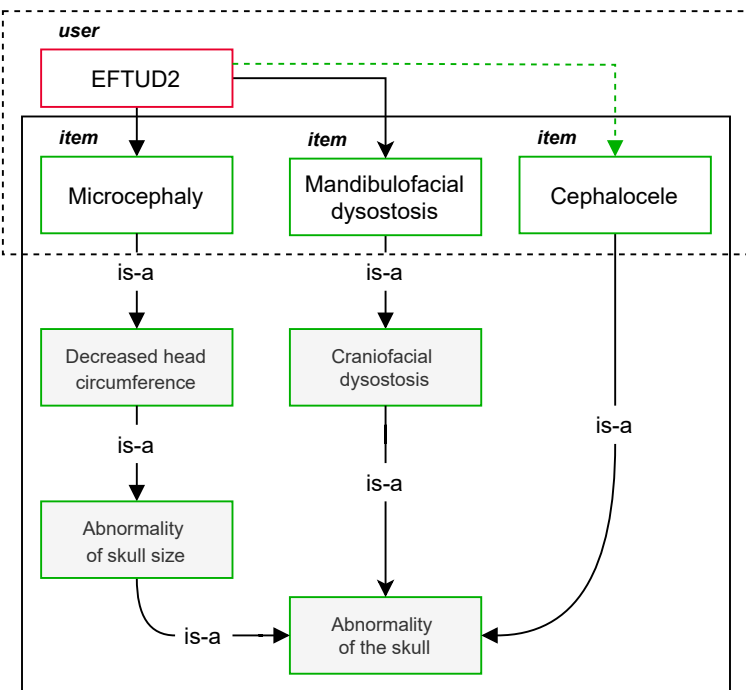


user-item interactions



knowledge graph