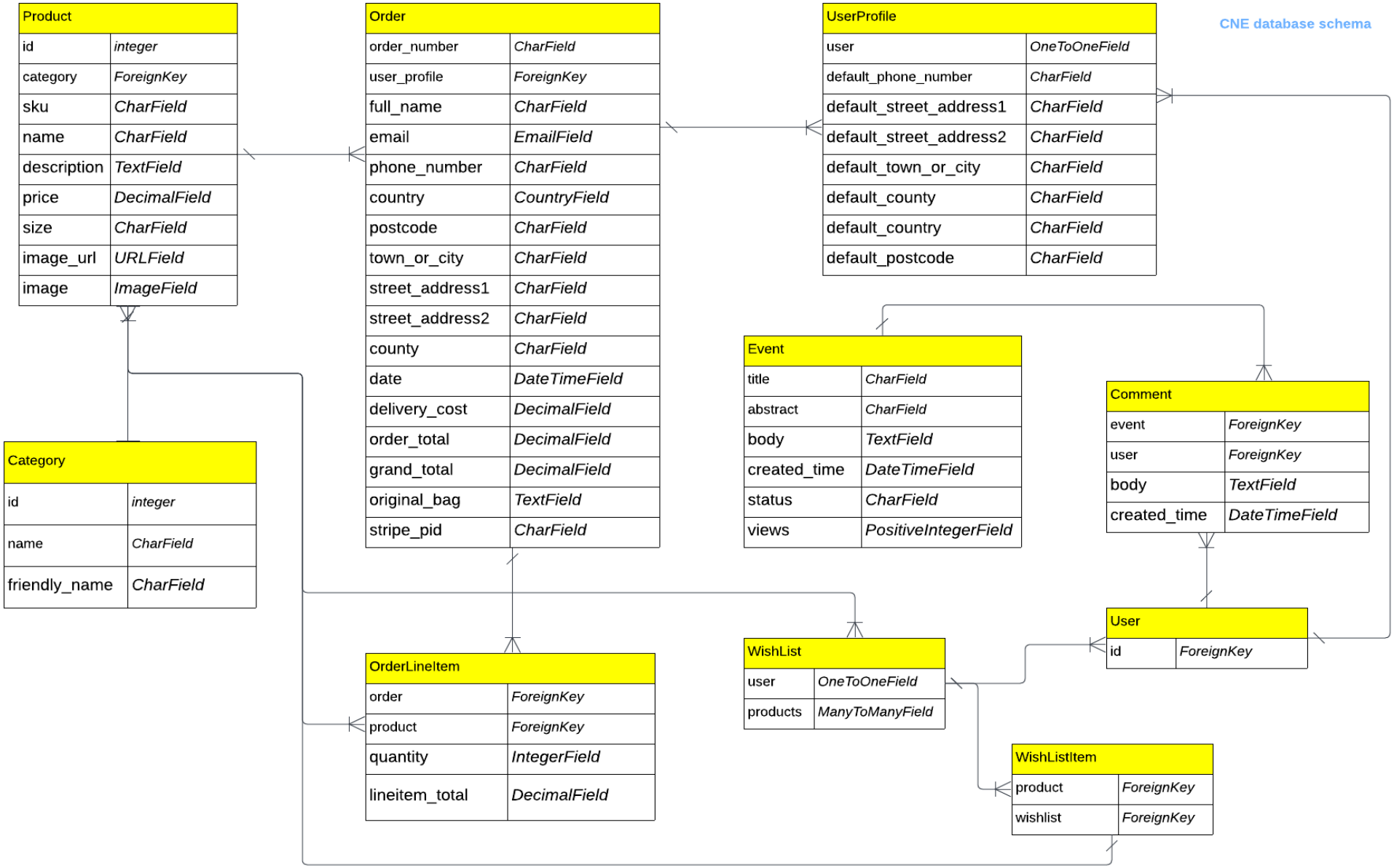CNE database schema