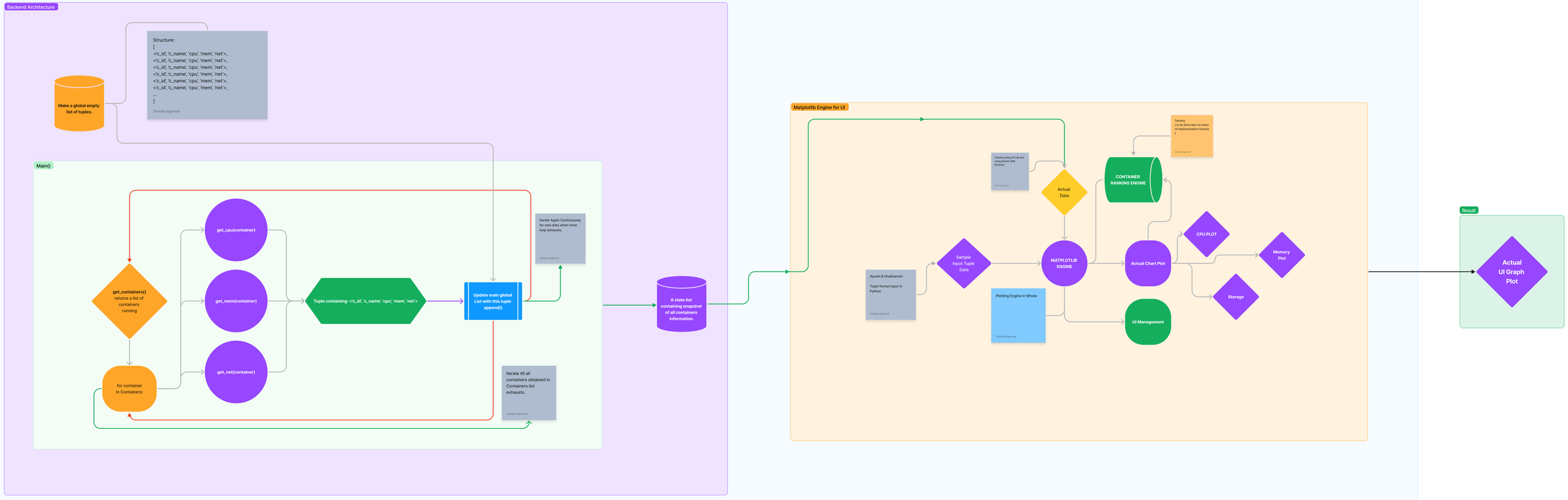Application Architecture