User & Roles	Pain Points	Root Causes	Solution idea	Data and metrics
Commuter Student	No live availability info	no routing guidance from to free spot	Uneven demand across campus	Missed-class/late incidents trend
Keyon Davis	Keyon Davis	King Zoom	King Zoom	King Zoom
Residents	Tickets for parking in wrong zone	Resident cars occupy daytime capacity	Event mode: reserve/redirect overflow	Average search time (min)
Keyon Davis	Keyon Davis	King Zoom	King Zoom	King Zoom
Faculty and staff	circling lots add 10-25 mins	Static maps; no sensors in most lots	Simple web app shows live % open by lot	Lot utilization by hour
Keyon Davis	Keyon Davis	King Zoom	King Zoom	King Zoom
vistors and events	Confusing signage; zones not obvious	Uneven demand across campus	Crowdsource updates + QR "I parked/I left"	Ticket counts by zone
Keyon Davis	Keyon Davis	King Zoom	King Zoom	King Zoom