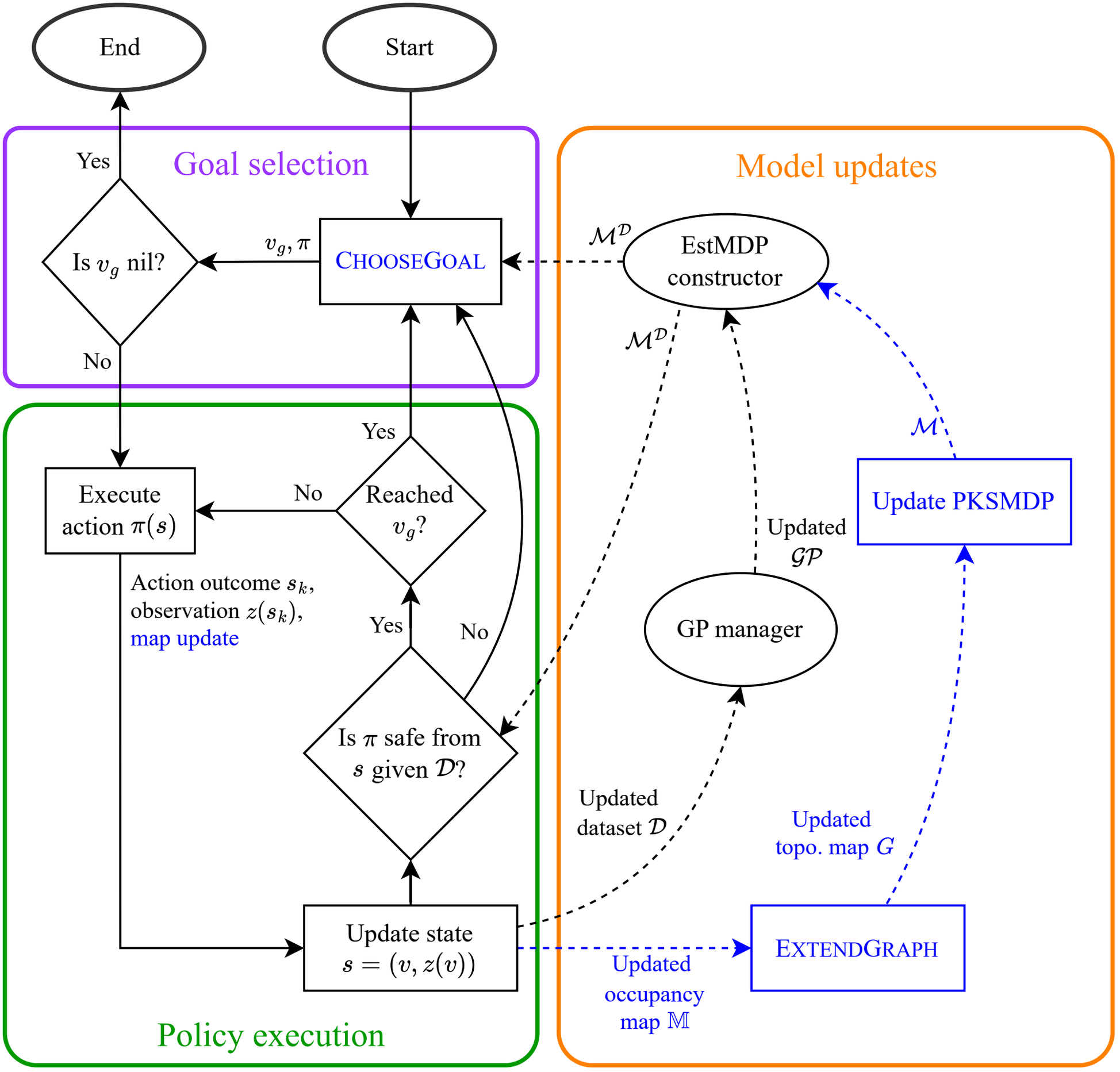
End
Start
Goal selection
Yes
Is v_g nil?
No
v_g, π
ChooseGoal
Model updates
$\mathcal{M}^{\mathcal{D}}$
EstMDP constructor
$\mathcal{M}^{\mathcal{D}}$
$\mathcal{M}$
Update PKSMDP
Updated $\mathcal{GP}$
GP manager
Yes
Reached v_g?
No
Execute action $\pi(s)$
Action outcome s_k, observation $z(s_k)$, map update
Yes
No
Is π safe from s given $\mathcal{D}$?
Updated dataset $\mathcal{D}$
Updated topo. map G
Update state $s = (v, z(v))$
ExtendGraph
Updated occupancy map $\mathbb{M}$
Policy execution