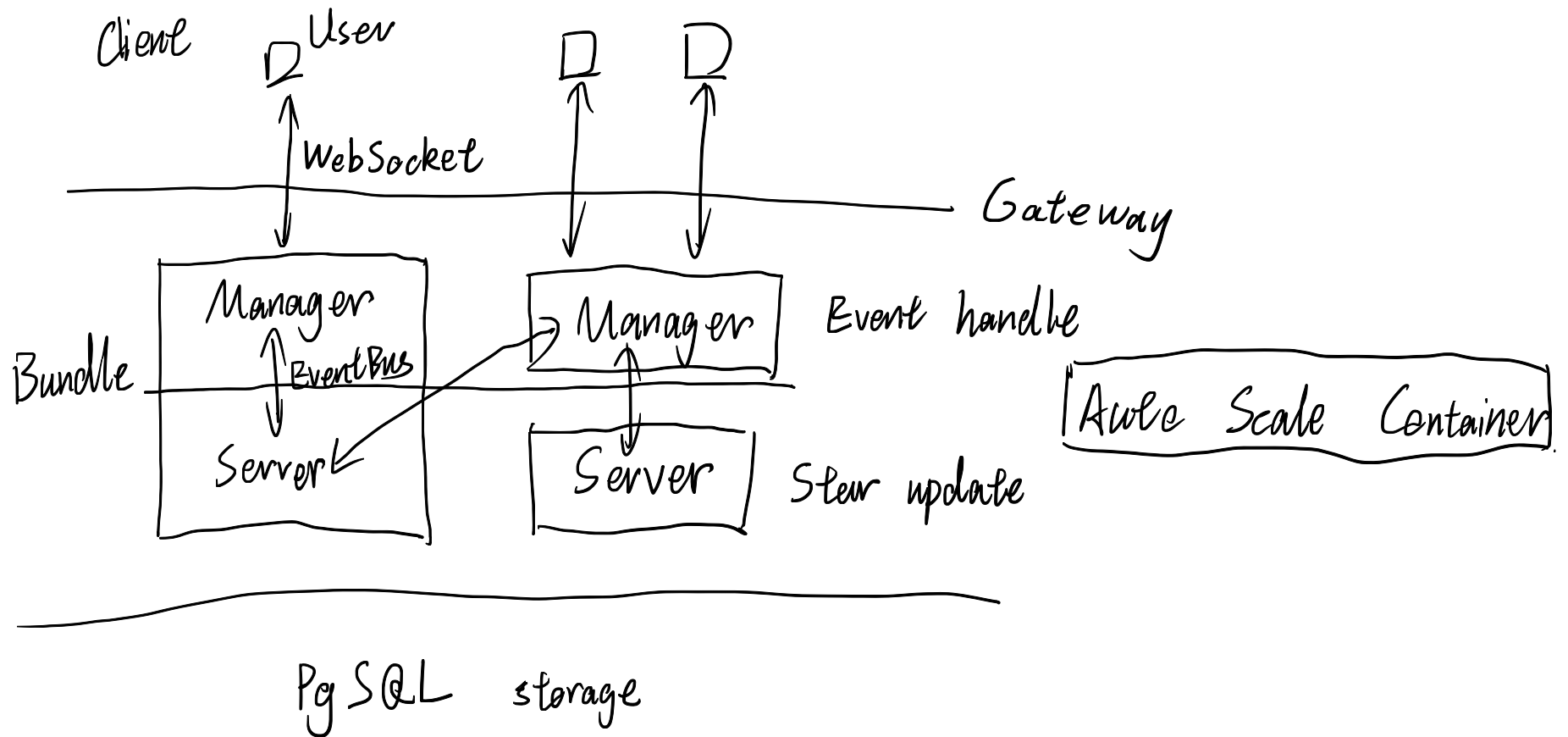


# 系统构成(子项目)



# 类关系

→ 实例化  
→ 通讯

初始化数据库

DbVert

Manager 入口

AppVert

HttpVert

保持 Web Socket 连接  
按用户位置分发消息

云动态载入 Star

Server 入口

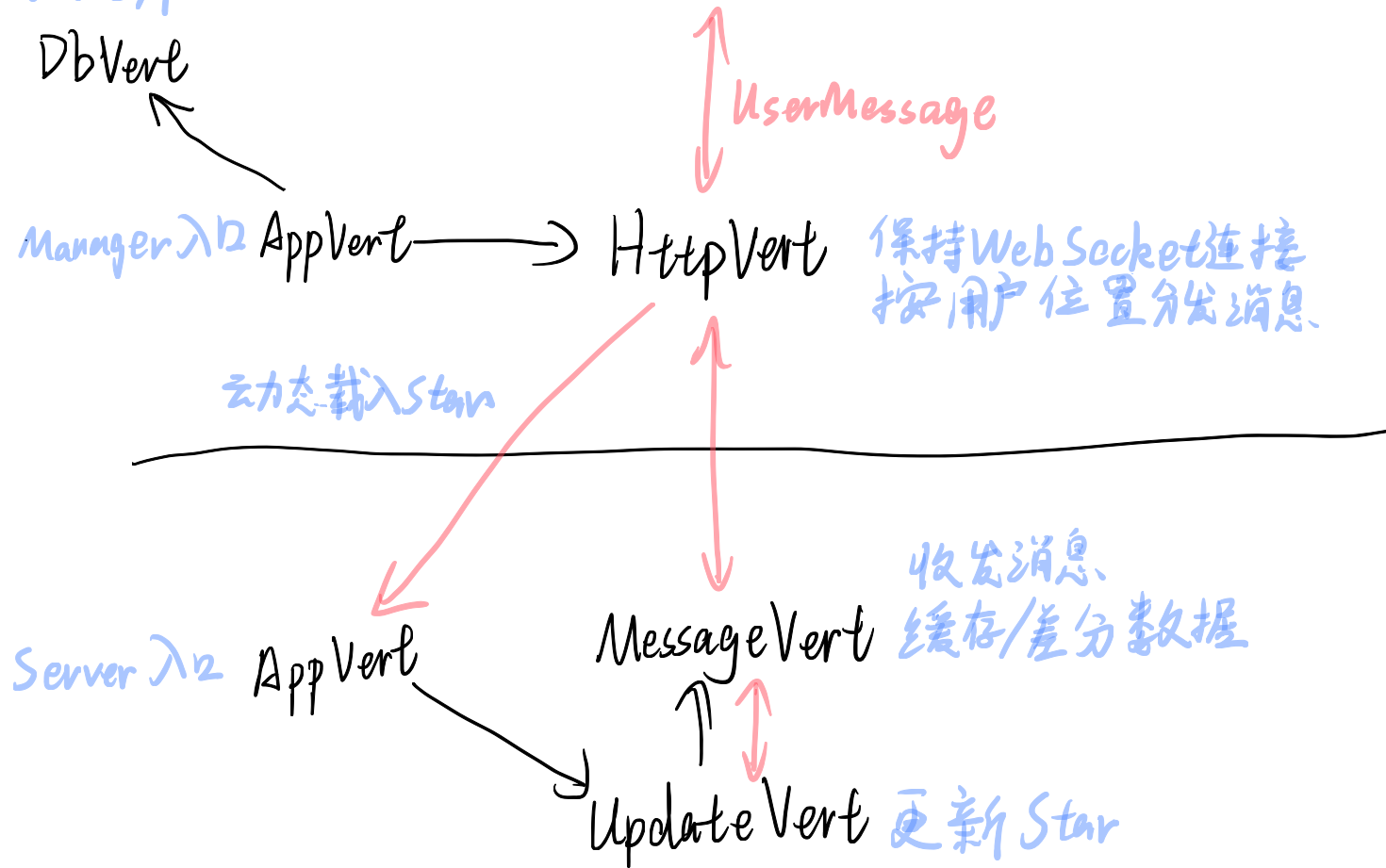
AppVert

MessageVert

收发消息  
缓存/差分数据

UpdateVert

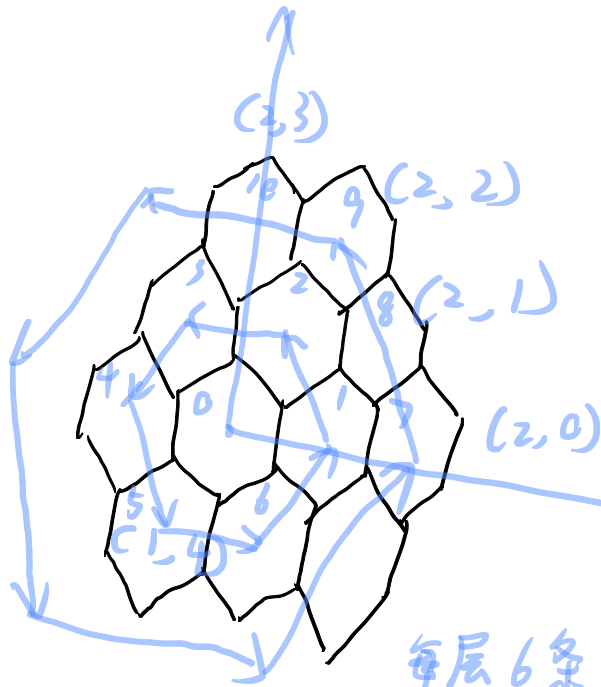
更新 Star



# 地图结构

笛卡尔坐标系

↑ 按边分类讨论



$\text{index}(x, y)$

$$= 6 + 12 + \dots + 6(x-1) + y$$

$$= \frac{6x(x-1)}{2} + y = 3x(x-1) + y$$

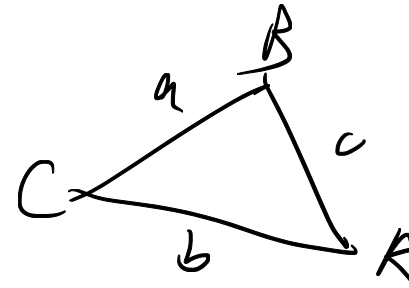
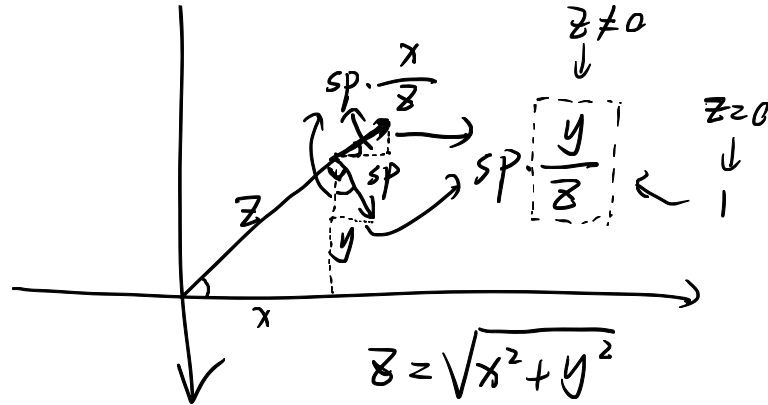
$$3x^2 - 3x - \text{index} = 0$$

$$(\text{向下取整}) x = \frac{3 + \sqrt{9 + 12\text{index}}}{6}$$

每层6条边, 每条边每多一层多一块

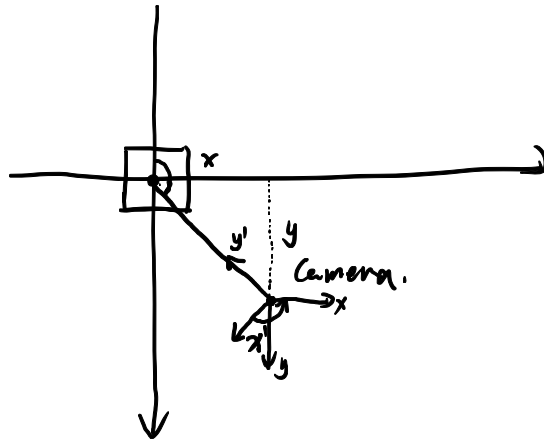
第N(N大于0)层有6N个块

# 玩家移动 & 视角变换

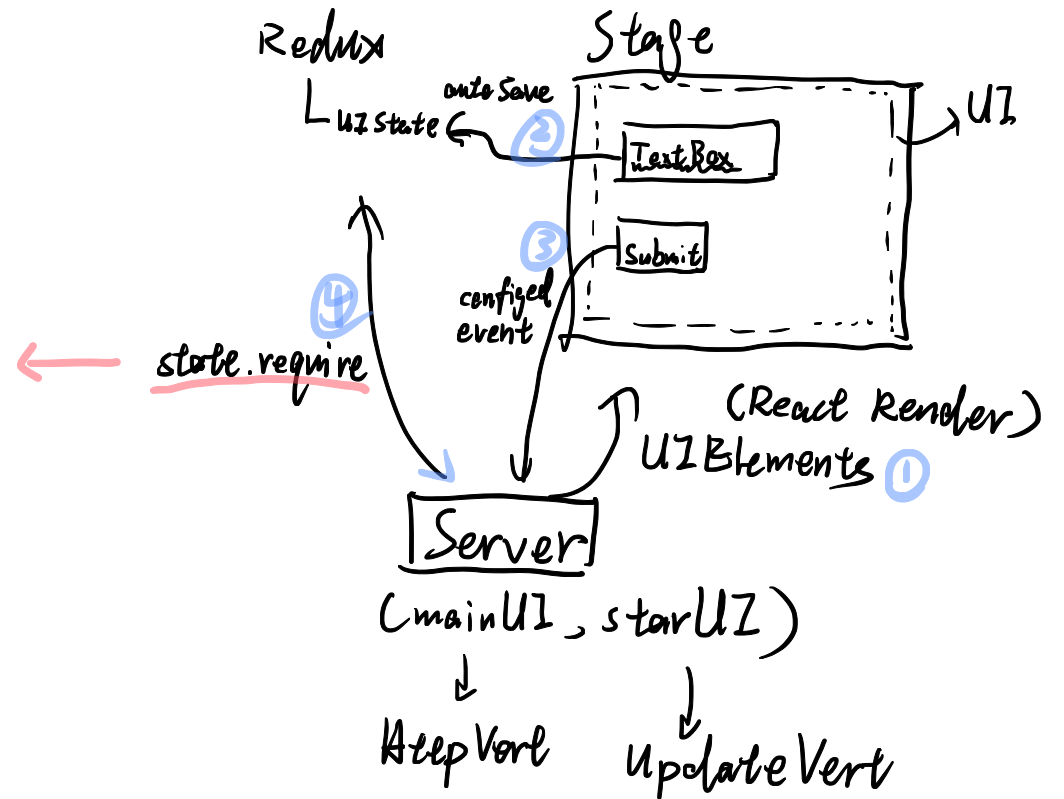
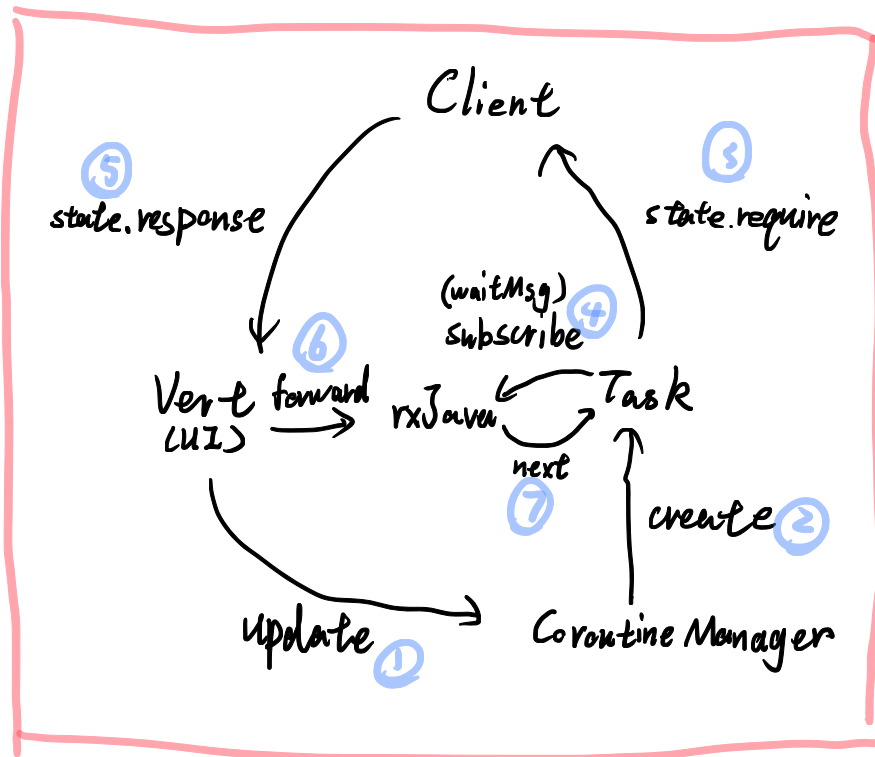


$$\frac{\sin A}{a} = \frac{\sin B}{b} = \frac{\sin C}{c}$$

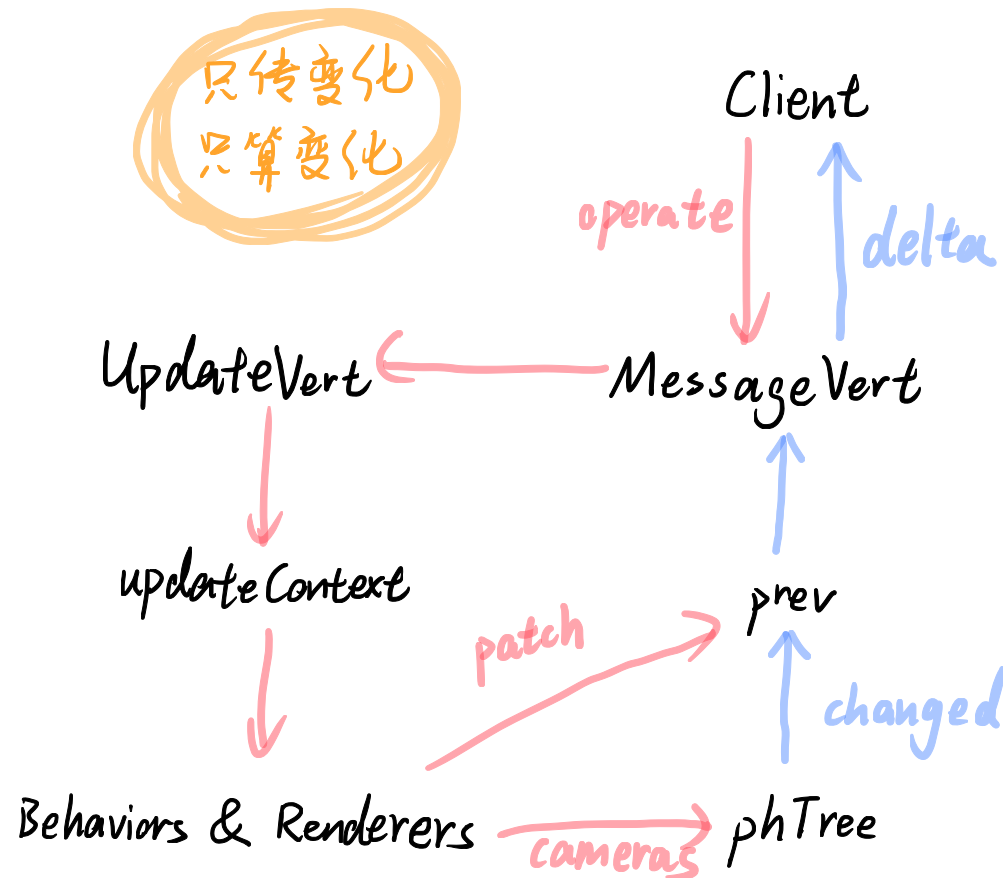
$$a^2 + b^2 - 2ab \cos C = c^2$$



## UI 绘制 & 交互

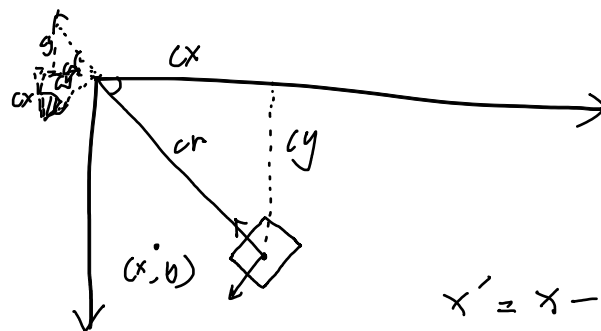


## Drawables Data flow



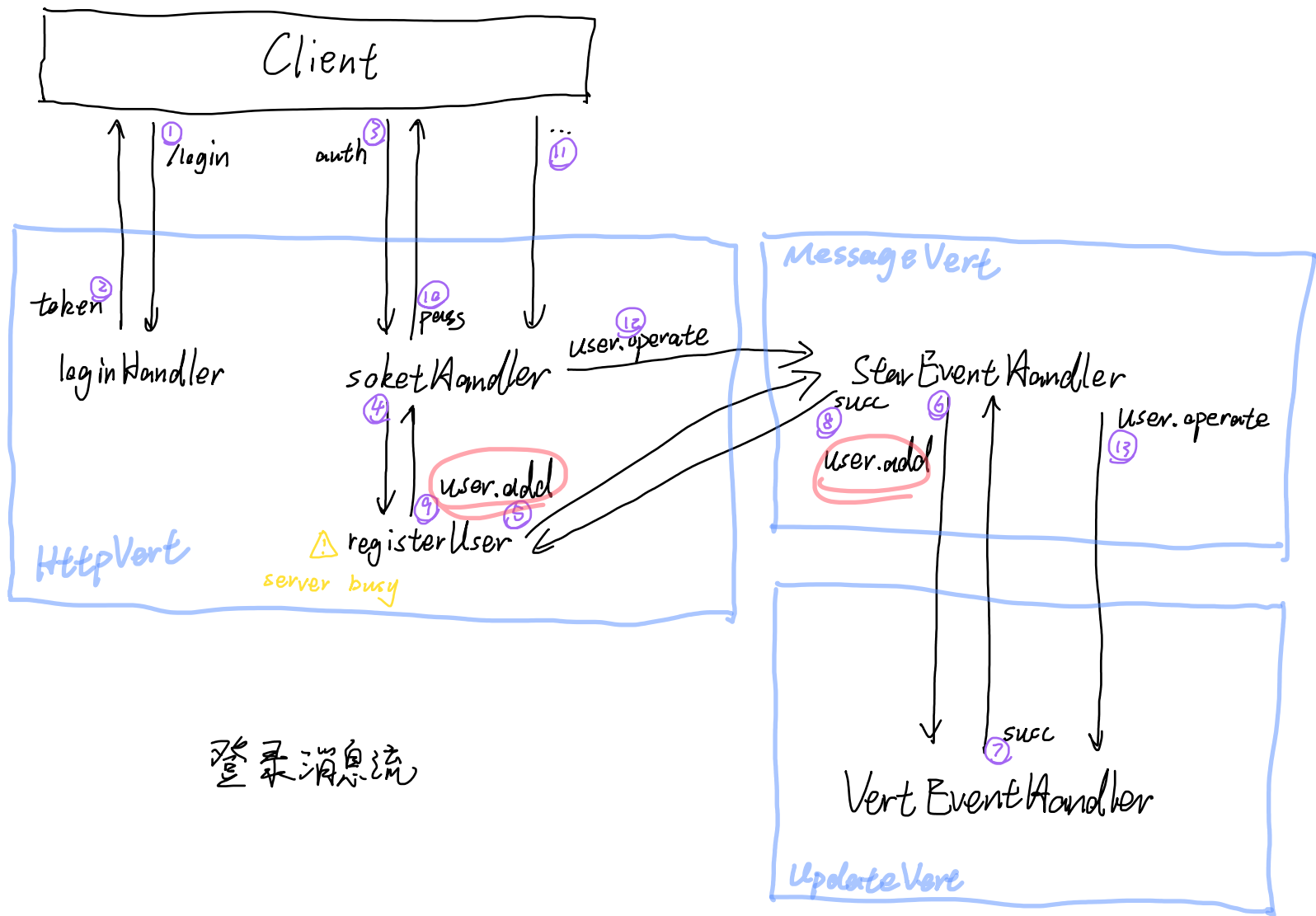
继续优化? (TODO)  
对地图大改 分块存储  
给用户传大块地图  
Client二次筛选  
目前 Drawable 粒度过细  
最终就是类似开放世界的架构

$$\begin{pmatrix} -\frac{cy}{cr} & \frac{cx}{cr} \\ -\frac{cx}{cr} & -\frac{cy}{cr} \end{pmatrix} \begin{pmatrix} x' \\ y' \end{pmatrix} = \begin{pmatrix} -\frac{x'cy}{cr} + \frac{y'cx}{cr} \\ -\frac{x'cx}{cr} - \frac{y'cy}{cr} \end{pmatrix}$$



$$x' = x - cx$$

$$y' = y - cy$$



登录消息流