Use Case Model for single lift.

Use case name: Taking lift

Summary: A lift software allows the person to push a button to arrive at the desired level.

Primary Actor: Lift

Secondary Actor: None

Precondition:

1. A Lift has three running direction indictors: Nonforward, Upforward and Downforward.

2. At the outside of box, a Lift has an Up button in all the floors except for the lowest floor and a Down button at the outside of box in all the floors except for the base floor.

3. In the box, a Lift has a number-button that is disabled for this floor and pops under keeping on pushing for each floor, and an open-button and a close-button.

4. At each floor, a user can push up-button and down-button, they pops under keeping on pushing.

5. Lift is stopping on a certain floor.

Description:

1. Under stopping state, the door is opened when the open-button is pushed, or the lift arrives at the level that number-button is pushed or the direction is Upforward and up-button is pushed or the direction is Downforward and down-button is pushed, and then pop the corresponding buttons.

2. Under opening state, the door is closed when the close-button is pushed or the open time is timeout.

3. The lift runs up-forward if there are higher-tier number-buttons or up-button being pushed, and the running direction is Up-forward or the current level is base.

4. The lift runs down-forward if there are lower-level number-buttons or down-button being pushed, and the running direction is Down-forward or the current level is roof.

5. At any level, Nonforward is set when there are not any pushed buttons. The Upforward is set when the lowest level being requested is arrived, or the current running direction is up-forward and there are higher levels which number-button or Up-button are pushed. The Downforward is set when the highest level being requested is arrived, or the current running direction is down-forward and there are lower levels which number-button or Up-button are pushed.

Alternatives:

2.a: If the closing door is blocked, the door is opened again.

Postcondition: The lift sends the user to its required level.

Your tasks:

Draw a Statechart diagram that captures the described behavior.

单升降机用例模型。

用例名称:搭乘电梯

摘要:电梯软件允许人们按一个按钮到达想要的高度。

主要演员:升降机

次要演员:无

先决条件:

1. 升降机有三个运行方向指示器:非向前、向上和向下。

2. 在盒子的外面，除最低层外，所有楼层的电梯都有一个向上按钮，除底层外，所有楼层的电梯都有一个向下按钮。

3.在盒子里，电梯有一个数字按钮，在这一层是禁用的，按下每一层就会弹出，还有一个打开按钮和一个关闭按钮。

4. 在每一层，用户可以按下上下按钮，按钮就会弹出，继续按下去。

5. 电梯停在某一层。

描述:

1. 在停止状态下，按下开门按钮，或电梯到达按数字按钮的高度，或方向为向上按下按钮，或方向为向下按下按钮，然后弹出相应按钮。

2. 在开门状态下，按下关门按钮或开门时间超时，门即关闭。

3.如果有更高一级的数字按钮或按下向上按钮，电梯运行方向为向上向前或当前层位为基础，则电梯向上向前运行。

4. 如果按下下层数字按钮或向下按钮，且运行方向为向下向前或当前层位为屋顶，则电梯为向下向前运行。

5. 在任何级别上，当没有按下任何按钮时，将设置非向前。当请求的最低级别到达时，或者当前运行方向为向上，并且有更高的级别按数字按钮或向上按钮时，设置向上。当请求的最高级别到达时，或者当前运行方向是向下前进，有较低级别按数字按钮或向上按钮时，设置向下前进。

选择:

2.a:如果正在关闭的门被堵住，请重新打开门。

后置条件:电梯将使用者送到所要求的高度。