Bus stop LED screen wireless group control solution

1. Required functions: P6 LED screen size 5x1m, used to display the distance from bus to bus stops and bus arrive time; commercial ads; weather forecast; real time information. Publish program by web platform, support multilevel purview management.

1. Effect picture:

2. System network diagram:
3. Equipment component:
One piece xixun Y10 controller (with 3G/4G), multiple number D10 (D10 quantity is according to customer requirement and LED screen resolution), GPS antenna. Below is connecting picture.

4. Function and theory
Realization theory: Every bus has one GPS antenna, the GPS will send the location and diving speed to server, and then bus stop will get the data from server. When people are waiting for bus, they can read the information about the buses come to the bus stop from the LED display. It will show how many stops away, estimate arrival time, arriving, arrived information.
Requirements need be development

1. Bus stop LED display system (B/S solution), including below functions:
   1. User login
   2. Videos, picture upload
   3. Play programs on assigned controller (Bus stop LED screen)
   4. Play real time bus information on assigned controller (Bus stop LED screen), main information are distance and arrive time and so on.
   5. Play weather forecast on assigned controller (Bus stop LED screen).
   6. Make bus stop LED playing interface
   7. Obtain real time bus information port

1. The way of obtaining real time bus stop information has several possibility:
   1. Bus system sends distance, arrive time, bus tag etc to bus stop led system automatically.
   2. Bus system sends distance, arrive time, bus tag etc to bus stop led system by time schedule.
   3. If bus system can’t obtain distance, arrive time, it’s allowed to provide other replacement information which will send to bus stop led system. Replacement information are bus location, bus driving speed, bus stop location, gather of bus route coordinates (Computer needs use map service, may need buy map service if use map service too many time everyday)

Development time: 30 days

5. Android system Y10 advantages:

6. Web platform, friendly use:
   Software platform uses B/S structure, friendly use, no need to set router, to buy domain name, to set up sever, only need username and password to log in, then can group control all terminals. As below picture.
7. No limits to control terminal and operation system:
   No need to install software, can open web group control display terminal at any
terminal which can access to public network (includes PC, phone, pad)
8. Easy to make program, non-linear editing, professional in advertising industrial: AIPS platform support web online editing program, weather forecast, as below picture:

9. Multilevel purview management, meet different types management needs: Edit, publish, audit, and approve four rights
10. Support schedule play and update:

Send program by time schedule, manage ads playing time more flexible.
11. Can control all kinds of function, like brightness control etc. Can turn off and turn on LED screen, adjust brightness and volume etc, as below picture:

12. Supports keeping send program even paused, save internet flow.

13. Read back content, easy to monitor:
14. Insert in time message

Y10 controller has several way to access internet which has on board 3G/4G, wifi together with LAN port, no need other 3G/4G router and device. Y10 picture:
16. Support GPS task:

With GPS antenna, you can check led screen location; can play assigned ads on assigned led screen, easy to manage. Also can check ads playing log.

17. Use elasticity cloud sever: can update server configuration anytime when original configuration can’t realize.
Cloud platform advantage:

**Stability**

- The reliability of data and service is 99.999%.
- Automatic migration when server goes down; data backup and rollback.
- System performance alerts.

**Security**

- DDoS defense system, Security-group rule protection.
- Multi-user isolation.
- Password cracking defense.

**Elasticity**

- Boot or release 100 cloud servers within 10 minutes.
- Upgrade CPU and memory within 5 minutes during downtime.
- Constantly upgrade the bandwidth online.

**High Quality Network**

- Multi-line access to the backbone network.
- Exclusive multi-line BGP.
- Optimal routing algorithm based on BGP.

18. **Server configuration for reference**

**Hardware:** CUP 2 cores, Ram 4GB

**Operation system:** Windows Server 2008 R2 Stander 64 bit English

**Storage:** 100GB

**Network bandwidth:** 10Mbps