



UAHuntsville
THE UNIVERSITY OF ALABAMA IN HUNTSVILLE

STEM Outreach Through Ballooning and Mobile Devices

Presentation: Mark Becnel
Graduate Student

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The University of Alabama in Huntsville

This is a project of the UAH Space Hardware Club

10/4/2012

1



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Science, Technology, Engineering, and Mathematics Everyone teaches STEM

Ballooning with the UAH Space Hardware Club
at Liberty Middle School, Madison, AL



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Transferring Payload Data

Payloads radio information to a ground station, pushed to a server, and made available to multiple data sources.



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Current Mobile Logistics Management



4



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Current Features

- View the last packets received to the database.
- Choose how many packets appear in the list. (5, 10, 20)
- Refresh the application and receive the most recent set of data.
- Change which data appears in the list. (altitude, latitude, longitude, and velocity)
- Zoom to the last known location of the balloon in Google Maps.



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3G 7:21 PM

SHC BalloonSat

Last Known Altitude: 3510.6864
Last Known Speed: 21.60667
Last Known Latitude: 35.03433
Last Known Longitude: -85.84433

Altitude: 201
Speed: 25
Latitude: 34.77
Longitude: -86.55

Altitude: 200
Speed: 25
Latitude: 34.55
Longitude: -86.55

Altitude: 3510.6864
Speed: 21.60667
Latitude: 35.03433
Longitude: -85.84433

3G 7:23 PM

SHC BalloonSat

Last Known Altitude: 3510.6864
Last Known Speed: 21.60667

Preferences

Get Last 5 Packets

Get Last 10 Packets

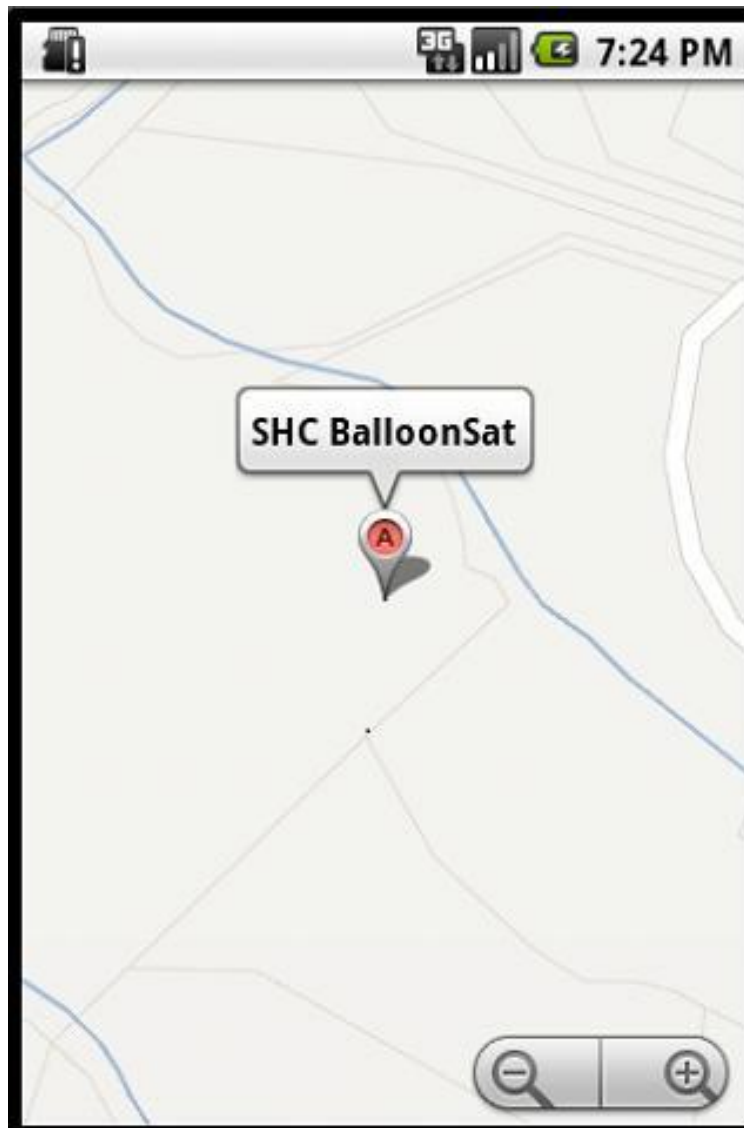
Get Last 20 Packets

View Track

Latitude: 35.03433
Longitude: -85.84433



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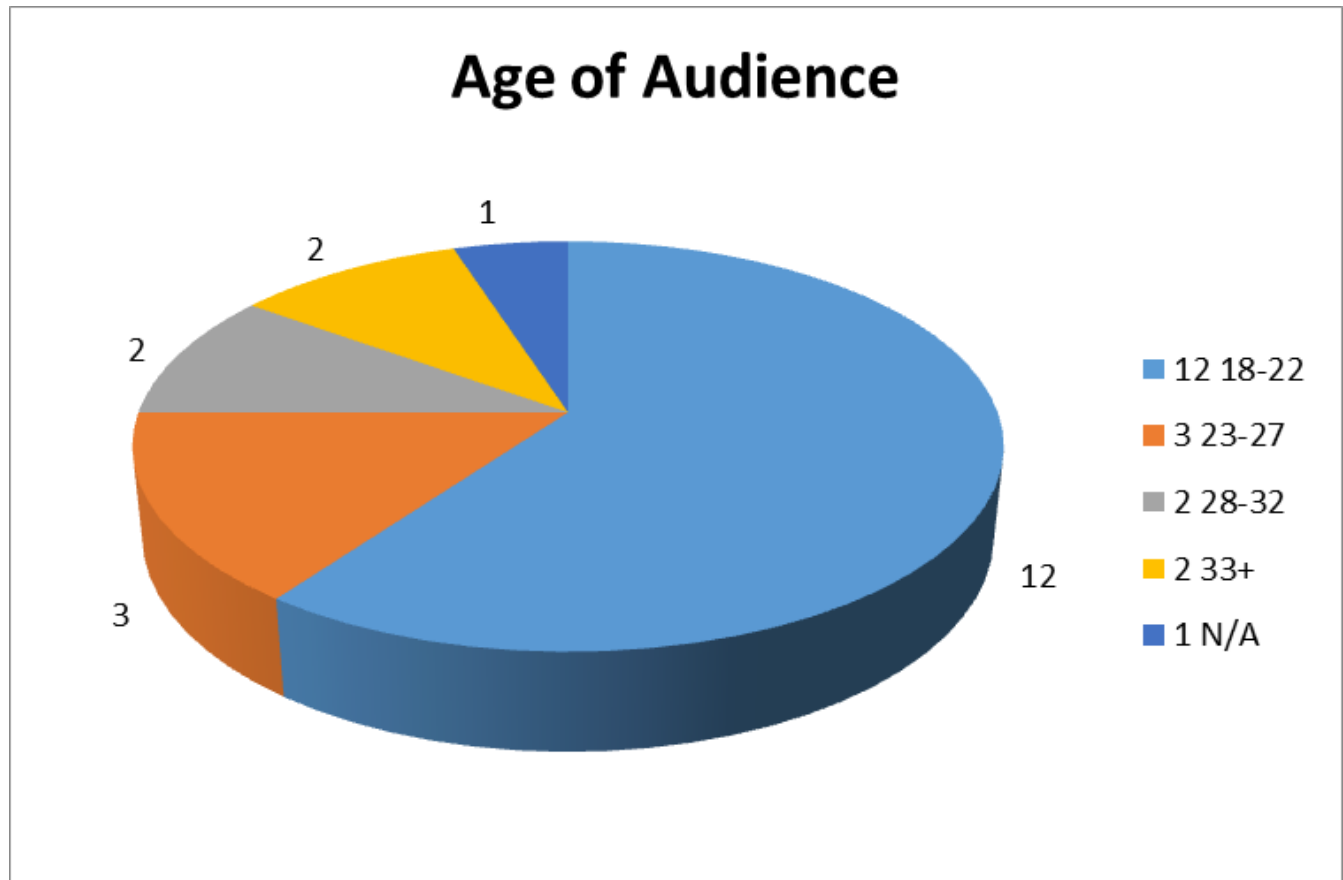
Hands-On in the Classroom

- Many students have a compatible smartphone, this allows them to bring home a new technology.
- This makes the program hands-on.



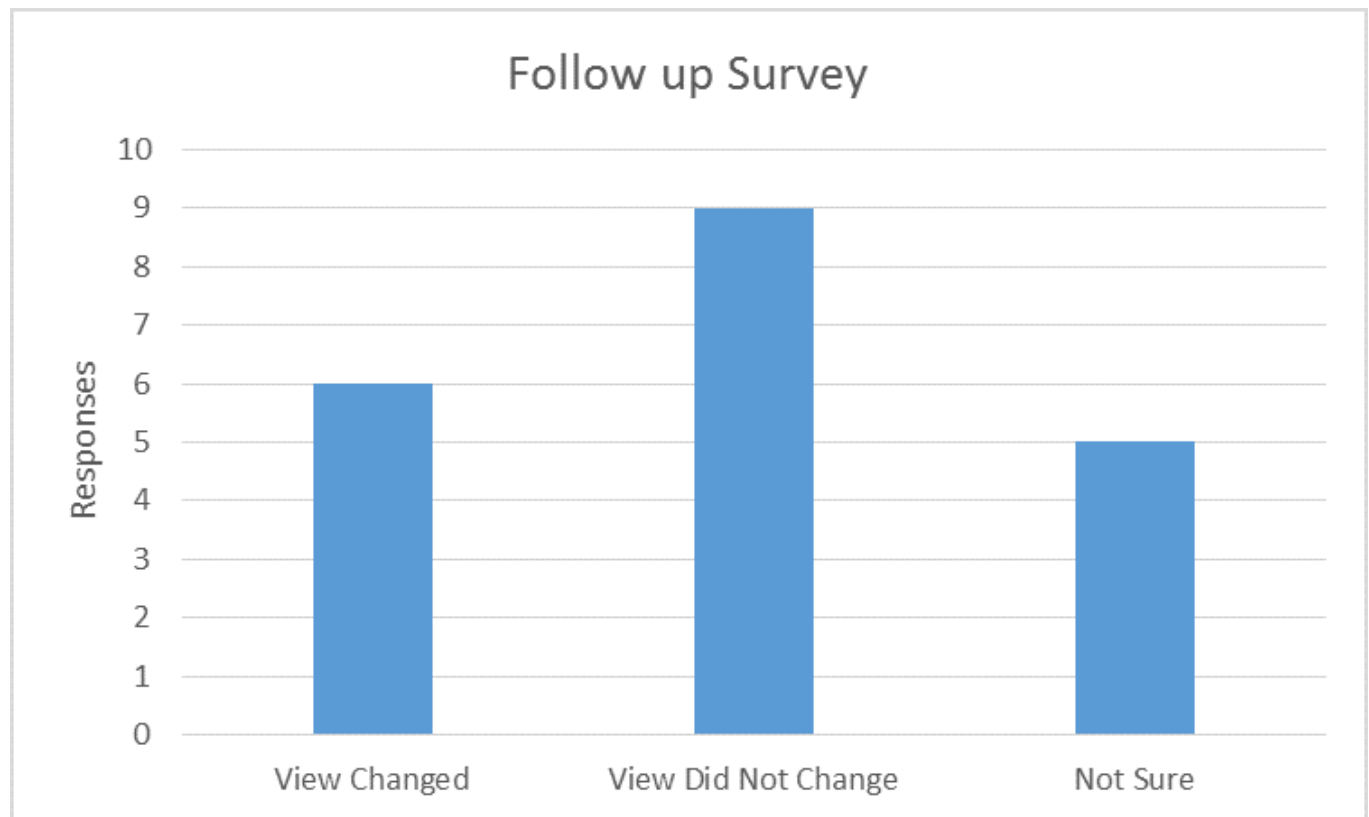
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STEM Goals



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STEM Goals



10





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11



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UAH Space Hardware Club Members

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