



APPSoup RFP | The Dumpster Project

Del Valle High School

June 15th – July 17th, 2015

Background

The Dumpster Project (dumpsterproject.org) is transforming a used trash dumpster into a tiny sustainable house as an innovative tool to teach, talk, and learn about sustainability, design, and what makes a healthy, happy home. We use our living experiment – the dumpster-as-home – to inspire and challenge learners of all ages. The Project includes the design, testing, and building of the dumpster home itself as well as an integrated set of formal and informal education experiences that energize STEM learning and engage people in sustainability awareness.

The project is based at Huston-Tillotson University (HT), a historically black university in Austin, Texas. The goal is to create a high-tech, net-zero energy dumpster microhome that consumes minimal resources in terms of water, energy, and space and provides a healthy home environment. To get there, the project team is working with an advisory panel of faculty and community experts to collect data and design solutions. For the first year of the project, former HT Dean Jeff Wilson lived in the dumpster as the conversion process began. Now, as the project moves into its second year, educators, artists, and creators of all types are taking on dumpster “residency” periods to bring the lessons of sustainable living home to their students. The transformation of the dumpster continues in a step-by-step fashion.

Project Description

Del Valle APPSoup team has been hired to work for The Dumpster Project to design and prototype a mobile app that displays and interprets Dumpster Project energy data in addition to providing an interactive educational experience comparing home energy consumption between the Dumpster home and a standard user’s home. The mobile app’s interactivity can be in the form of a game or competition component to the energy comparison, or can be designed in some other way to be determined by the team and approved by the Dumpster Project directors. We encourage creative approaches that reflect the educational spirit of the Dumpster Project. We want to educate app users and inspire them to action – from simple actions like turning off lights to more complex actions like enacting efficient energy purchases at school and home. An optimal app will not just display energy data, but it will build the user’s



understanding of what that data means (for example, what does a kilowatt hour or a ton of CO₂ really represent in terms of money, time, temperature, water, climate impact, social impact, etc.?). The optimal app will also creatively use interactivity and personalization to encourage energy awareness behaviors that persist and spread.

Your team will develop an app, and demonstrate the user interface and intended user experience. Your team will then present a business plan with a five year revenue projection for the app.

General Tasks

Research – energy monitoring, home energy use, complete personal energy audit, energy sources, environmental impacts and footprints of energy sources, market research, energy efficiency strategies.

Data analysis and representation – interpret and analyze sample data set from The Dumpster Project to determine what data should be represented in the app, determine most effective visual representation of data for intended users, incorporate relevant context to data representation.

App Prototype – complete mockup and tap-through of proposed app, ensure app is intuitive, easy and fun to use for target audience.

App code – program 3 elements of the app (referencing data sets).

Business Plan & Proposal – including budget, company organization, and return on investment.

Deliverables

- 3 functional, programmed elements of the app
- Mockup of proposed app and energy visualization
- Demonstration of app “tap-through”
- Detailed description of the design procedure as a part of the final report, software document including code components (data, methods, functionality) and the code itself.
- Detailed financials of your budget for your proposed solution (cost of bringing app to market)
- Present 5 year return on investment
- Digital copy of the final documents (report, presentation, design, software, pictures, videos, etc.) to be shared with the client

Considerations



- Audience (K-12 students, college students, staff)
- Platform (Apple, Android, etc.)
- Functionality depending on device, i.e., phone vs. tablet vs. computer, if it will work on multiple platforms.

Resources

Client:

www.dumpsterproject.org

twitter: [@dumpsterproj](https://twitter.com/dumpsterproj)

facebook: <https://www.facebook.com/dumpsterproject>

General Energy Issues/Efficiency/Management:

<http://energy.gov/energysaver/energy-saver>

<http://energy.gov/oe/services/technology-development/smart-grid>

<http://energyteachers.org/Links.php>

Footprint Calculators and Energy Data Visualization

<https://joulebug.com/>

<http://thesolutionsproject.org>

<http://www.nature.org/greenliving/carboncalculator>

<http://footprintnetwork.org/en/index.php/GFN/page/calculators/>

Energy Data Products:

<http://energycurb.com/>

<http://www.logicenergy.com/building/public-displays/screenshots/>

Local Connections:



<http://www.pecanstreet.org/>

<http://www.cmpbs.org/>

<http://www.solaraustin.org/>

<http://www.austineconetwork.com/>

App design, prototyping:

<https://popapp.in/>

<http://appinventor.mit.edu/explore/>