2017

Team Las Vegas, Solar Decathlon 2017 UNLV Foundations Presentation

University of Nevada, Las Vegas. Solar Decathlon Team.

Follow this and additional works at: https://digitalscholarship.unlv.edu/sd_2017_marketing

Part of the Environmental Design Commons, and the Sustainability Commons

Repository Citation

This Presentation is brought to you for free and open access by the Solar Decathlon 2017: Sinatra Living at Digital Scholarship@UNLV. It has been accepted for inclusion in Sinatra Living: Marketing and Promotion by an authorized administrator of Digital Scholarship@UNLV. For more information, please contact digitalscholarship@unlv.edu.
Where to begin

What is the Solar Decathlon?
The U.S. Department of Energy Solar Decathlon showcases innovative solar powered houses that are designed, built, and operated by collegiate teams. The winner of the competition is the team that best blends technology, market potential, and design excellence with smart energy production and maximum efficiency.

- **design**
  The design must be formed to innovatively combine knowledge from multiple disciplines, in order to address the market and competition objectives.

- **build**
  The next challenge begins with reinforcing design intent with physical form. Taking into consideration building tolerances as well as structural viability, form and function marry.

- **transport**
  Moving on, the design and building of the project must now consider moving to. The built home must also incorporate mobile capability as part of the final objective.

- **compete**
  Team Las Vegas will compete against 16 teams, all with the same objective, to win. This time all sixteen houses will find a sense of place in Denver, Colorado.
solar decathlon + UNLV
2013 solar decathlon + UNLV
In 2013, Team Las Vegas won **1st place in the United States and 2nd place internationally.** Job placement of those participating students was 100% after graduation. This competition created lasting relationships with the professional community and provided specialized avenues for students to pursue after the competition. **No other university sponsored competition has provided opportunities like solar decathlon.**
2017 solar decathlon + UNLV
The U.S. Department of Energy Solar Decathlon challenges collegiate teams to design, build, and operate solar-powered houses that are cost-effective, energy efficient, and attractive. The winner of the competition is the team that best blends affordability, consumer appeal, and design excellence with optimal energy production and maximum efficiency.

In 2013, UNLV won 2nd place in the International Solar Decathlon competition, and was the highest placing U.S. Team. For Solar Decathlon 2017, an interdisciplinary team of UNLV students, faculty, and community leaders are partnering together to develop a modular, personalized, and intelligent home. This project aims to bring together the UNLV Colleges of Engineering, Architecture, Applied Health Sciences, and Liberal Arts as well as team these efforts with the diverse business and medical leaders of Southern Nevada.

This home will be designed to improve the quality of retirement living and aging by integrating personalized medicine technologies that monitor symptoms and rehabilitate patients. It is our vision to add value to the growing infrastructure of the Southern Nevada medical community by utilizing this home as a research and rehabilitation center.

Evan Thomas
Engineering Lead
Nasko Balaktchiev
Architecture Lead
Elias Benjelloun
Communications Lead
Dr. David James
Principal Investigator
Dr. Alfredo Fernandez-Gonzalez
Project Investigator

TEAM LAS VEGAS
Elias Benjelloun
(702) 741-4332
benjello@unlv.nevada.edu

Beginning in September of 2015, Team Las Vegas has re-entered to compete in the 2017 Solar Decathlon. Through a rigorous proposal process, Team Las Vegas has been chosen among 16 collegiate teams worldwide to compete in 2017. Our goal for this project is to truly encompass the university wide effort to incorporate various disciplines to design this home. This goes beyond architecture and engineering.
Solar Decathlon has 10 contests

- architecture
- engineering
- market potential
- communications
- innovations
- water
- health & comfort
- appliances
- home life
- energy
With each contest we are approaching the best students in appropriate disciplines...

- engineering
- architecture
- health sciences
- communications
- hospitality
- film/photography
- graphic design
- marketing

- **01 master security system**
  - centralized hub for smart lock control

- **02 automated smart locks**
  - added security
  - ease of nightly lock up

- **03 learning thermostat**
  - central location
  - adjusts to users patterns

- **04 floor/roof sensors**
  - sense occupant activity
  - fall detection

- **05 health monitoring**
  - blood pressure
  - blood sugar

- **06 smart TV**
  - family communication
  - control center

- **07 smart appliances**
  - energy savings
  - communicate with home

- **08 sleep monitoring**
  - track respiration and sleep cycles
2017 conceptual design
2013 Module Chassis

- Custom manufactured
- High cost, heavy steel
- Irregular shape
2017 Chassis Option

- Pre-manufactured mobile-home chassis
- Low Cost
- 1 week production, 1 week shipping
- Appeals to homebuilders
2017 Concept
Social Space
2017 Concept
Dining Space
Project Process

Modules
Project Process

Integrated Mechanical Unit
Community Outreach
- Las Ventanas Retirement Community
- Lou Ruvo Center for Brain Health
- Osher Lifelong Learning Institute
Q+A