

UR TECH

Making Plans for Mars

BY RAAGA KANAKAM
COPY EDITOR

At the 67th annual International Astronautical Congress in Guadalajara, Mexico, Elon Musk, CEO of SpaceX, announced a bold plan to colonize Mars by 2025 and make interplanetary travel easy and accessible for those who can afford it.

His plan is to get 100 people up on the "Heart of Gold" (his proposed name for the ship, a reference to "The Hitchhiker's Guide to the Galaxy"), but wants get the number up to 200 in future trips to help lessen the cost of travel.

As of right now, it would cost \$10 billion for just one person to get to Mars with nonexistent technology, but Musk said that once his SpaceX Interplanetary Transport System is fully operational, it would cost only \$200,000 per ticket for a person and their luggage.

The trip would begin with the spaceship launching out of Pad 39A at the Kennedy Space Center at Cape Canaveral, Florida (currently under development). The booster will launch with 127,800 kilonewtons (28,730,000 pounds) of thrust, and then separate from the spaceship.

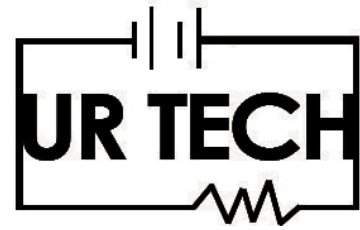
While the spaceship heads to orbit, the booster lands on Earth and

a propellant tanker is loaded onto the booster. The entire unit will lift off again and join the spaceship, which is then refueled in orbit. The propellant tankers will go up anywhere from three to five times to fill the tanks of the spaceship.

Using technology that is reusable (which is SpaceX's whole schtick) will also help drive down costs and make the trip more accessible.

Once fully filled, the spaceship will finally depart for Mars.

Students have mixed re-



actions about the possibility of going to Mars.

"I've always wanted to go to space," junior Daniel Villar said.

"A trip to Mars sounds good to me," junior Dominick Sarappa agreed. "It'd probably be a lot quieter and the reduced population would definitely help my road rage."

"I mean, Earth's chill, so I don't really understand all the hype about going out into space," junior Jill Schwartz said. "That's a lot of work."

Musk also promises zero-G games, movies, cabins, and a restaurant on board for the passengers.

"It'll be, like, really fun to go," he said. "You're gonna have a great time."

One thing absent from the presentation was consideration of how being in zero gravity for so long (80-150 days, specifically, depending on many factors) will affect the passengers on board.

For example, the spaceship he showed did not seem to rotate to create artificial gravity, so it will be interesting to see what the environment inside the ship will be like, and what passengers will need to do to be healthy.

Of course, the biggest question is, how safe is all this?

Musk addressed this directly by bluntly explaining the risks the first population to travel would face.

"I think the first journeys to Mars will be really very dangerous," answered Musk when an audience member asked him what kind of person he expects to volunteer for this journey. "The risk of fatality will be high. There's just no way around it."

Most components of the project that would be incorporated are still in the R&D phase, and even if they were tested and perfected thoroughly, this is still something that has never been attempted before.

Sure, maybe even with all this, those with insatiable curiosity and a want to do something great for humanity (or fans of Matt Damon's "The Martian") would strap in in a heartbeat.

But, as Musk asked, "Are you prepared to die? If that's okay, then you're a candidate for going."

The plan is incredibly ambitious and maybe a little bit too optimistic, which is to be expected from the man who revolutionized the auto industry with Tesla Motors and is attempting, with Hyperloop, a SpaceX brand, to head a mode of transportation that only exists in movies.

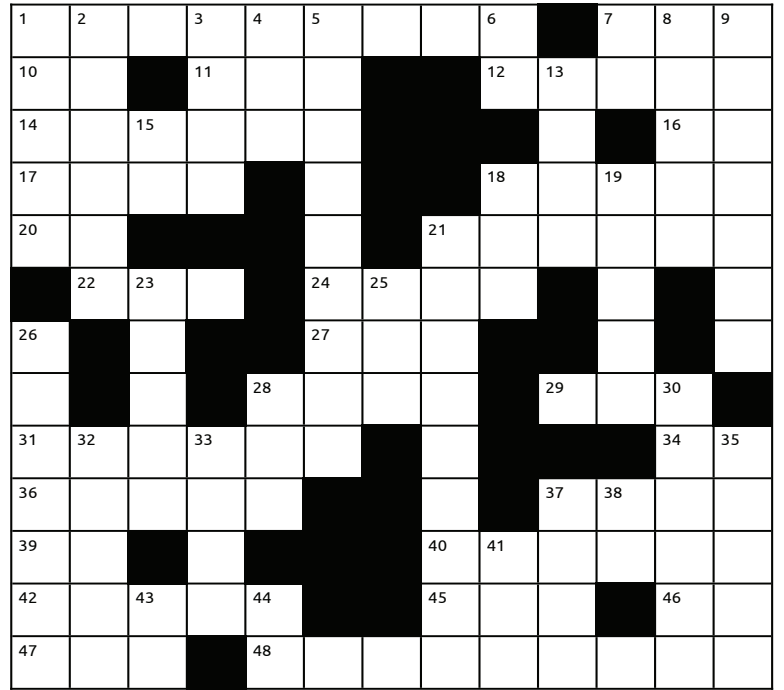
It will be interesting to see how close he can get to the 2025 date. Musk has always been particularly ambitious, and his deadlines aren't always dependable, given the multiple setbacks, such as the most recent Falcon 9 explosion.

But this is also a very noble pursuit, and ultimately something humanity should be very excited for.

Kanakam is a member of the Class of 2017.

PUZZLES

Crossword Puzzle



BY SAM PASSANISI '17

DIFFICULTY HARD

ACROSS:

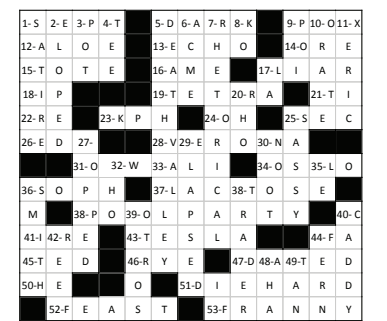
- 1) Coleridge has him decree "a stately pleasure-dome"
- 7) Bartender might start one of these for you
- 10) In the morning
- 11) One of Aristotle's elements
- 12) Clause separator
- 14) African nation; site of 1994 genocide
- 16) ___group, or those you associate with
- 17) Lovely Rita, meter ____
- 18) Disney's frog princess
- 20) Toy Story 2 villain
- 21) His flying car was the envy of American motorists
- 22) Make an effort
- 24) Green and peaceful site, often shady
- 27) Chatroom laughter
- 28) Rising stock market
- 29) Cell service provider
- 31) Light stopper
- 34) Middle name of many a fantasy character
- 36) Central hub or node
- 37) Has onion-like qualities?
- 39) First stop for trauma patients, perhaps
- 40) Unscripted "comedy"
- 42) Don't cry for her, according to Webber
- 45) Old French coin of small value
- 46) Part of a trio, with myself & I
- 47) Member of the House, for short
- 48) Our own Flower City

DOWN:

- 1) Accumulated deeds, both good and bad
- 2) Animal's experience of the

- 3) Terra firma
- 4) Help rendered
- 5) Elmers' dangerous cousin, perhaps
- 6) North Carolina, abbr.
- 7) Trademark mark
- 8) Protein-building acids
- 9) Gwen Stefani's refrain in "Hollaback Girl"
- 13) Leave out
- 15) Same as 20 Across
- 18) Base of Arabic numeral system
- 19) Financial property, usually
- 21) Stinging, free-floating cnidarian
- 23) Sit back and do this
- 25) Same as 27 Across
- 26) First to do something
- 28) Public transport vehicle
- 30) All roads lead _____
- 32) Sexual deviant, for short
- 33) Going cold turkey is one way to do this
- 35) High body temperature
- 37) Berkeley Breathed's plucky penguin hero
- 38) Abbr. often found prefixing "Britain"
- 41) Barkeep on "The Simpsons"
- 43) Computer's address
- 44) Argon, to a chemist

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