



The Interplanetary Immigration Center Project

Science Fiction, Open Source, and Alternative Representations

Lei Ma | the Interplanetary Immigration Center Team

@CoNZeland, 2020

Outline



InterImm:

Interplanetary Immigration Center

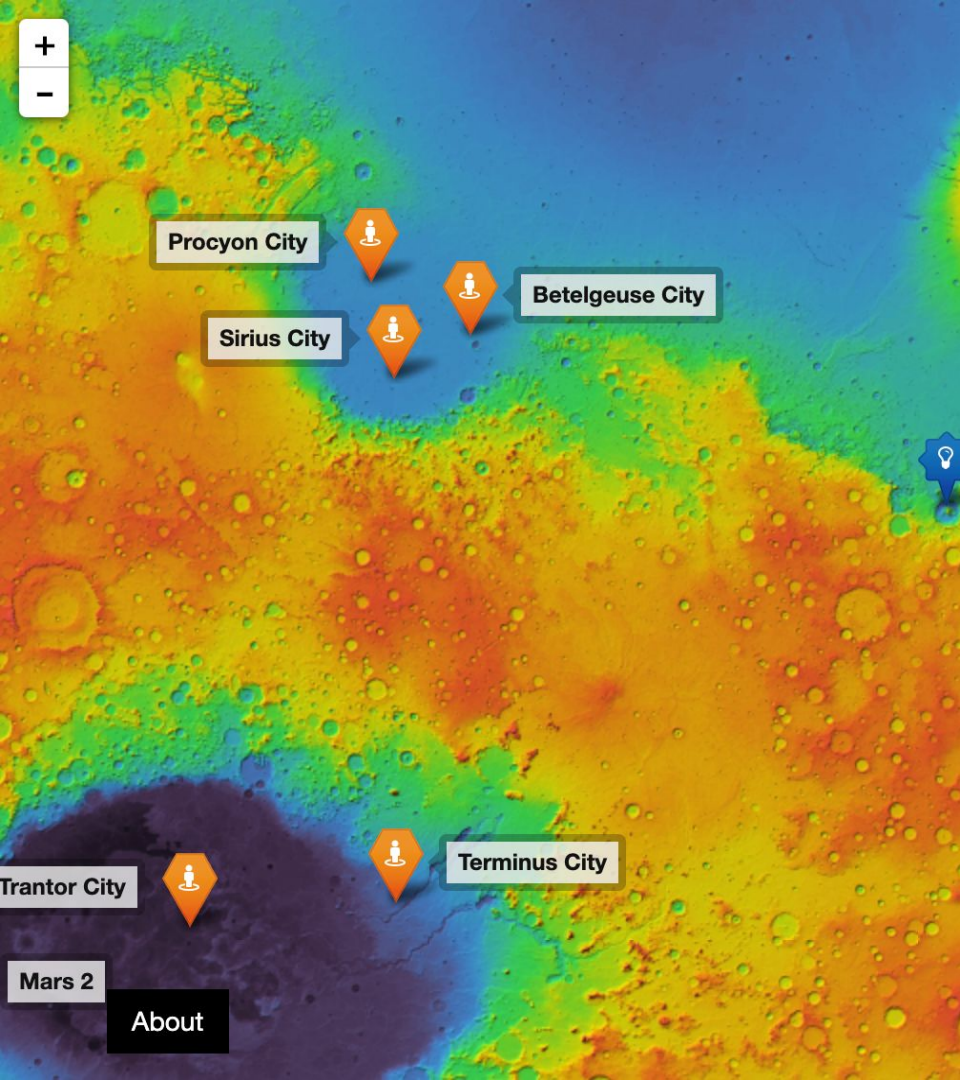
- Emigrating to Mars
- Open-source and Creative Commons
- The Team

Emigrating to Mars

Emigrating to Mars

Contemplating an interplanetary move

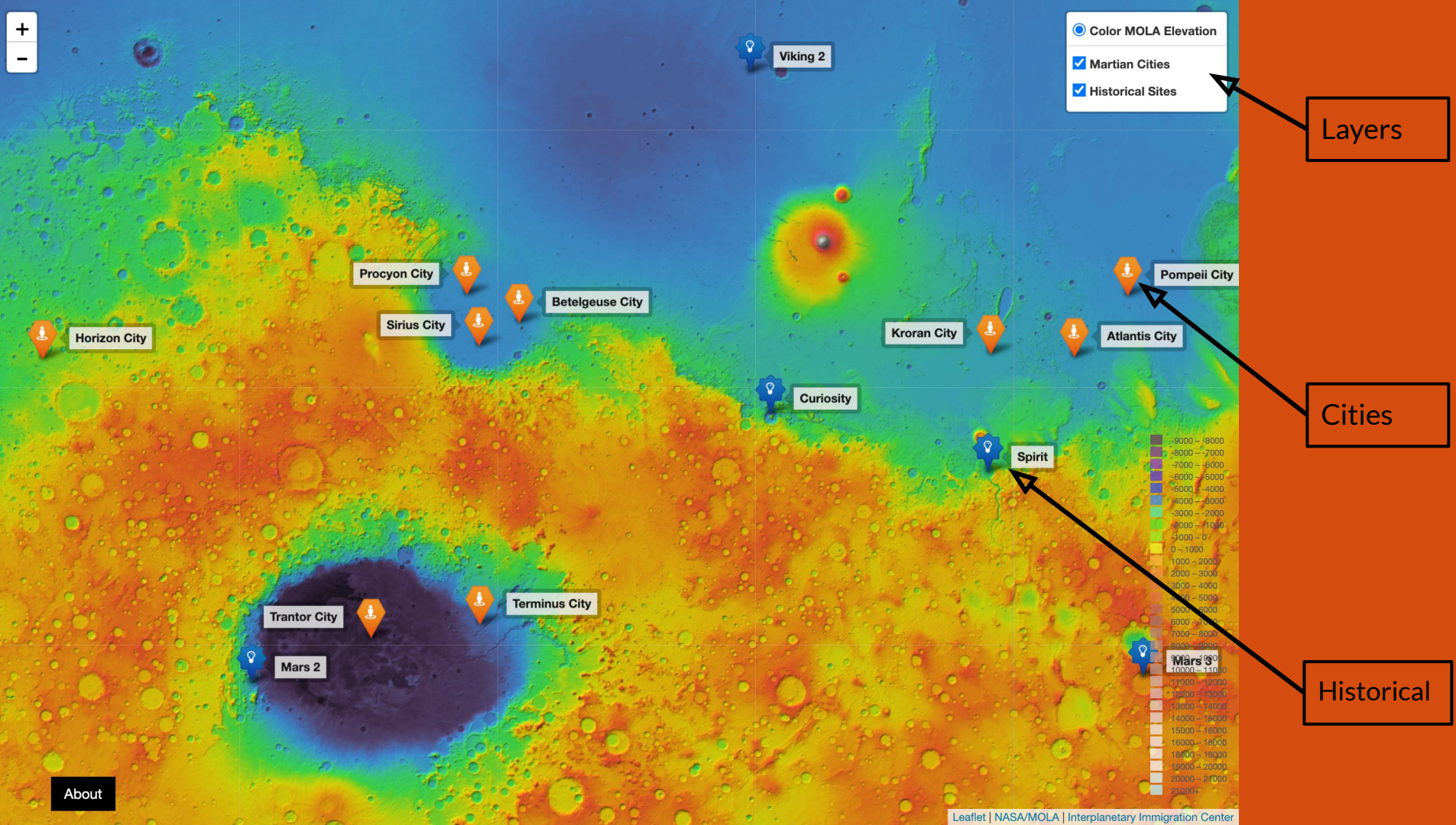
- A Map of Mars
- A Clock for Mars
- Chat with Friends on Earth
- Receiving a Gift on Mars



An Interactive Map of Mars

- Interactions
 - Drag
 - Zoom
- Layers





Earth Time - Mars Time Converter

Convert Earth time to mars time

Earth Time (example: type in 2016-07-16 01:58:16 or use the datetime input tool, then press enter)

Sun, 26 Jul 2020 11:28:58 GMT

27-18-4

Martian Calendar Day
(Year-Month-Day)

14:20:27 +00:00

Martian Time at Martian
UTC+0

14:38:56

Mars Coordinated Mars
Time

17,860.58155

Sols on Mars
(day on Mars)

Mars Time in Different Timezone

Choose your timezone on Mars

0

27-18-4

Mars Calendar Day in Current Timezone

14:20:27 +00:00

Martian Time in Current Timezone

Frequently Used Timezones

Location	Timezone	Notes
Isidis Metropolitan Area	5	+
Terminus City	5	+
Trantor City	4	+
Olympus Mons	15	+
Elysium Mons	9,10	10 (at the peak)

There are 25 timezones on Mars which are denoted using numbers
0-24.

Please refer to Table of Timezones to find more about locations and
timezones, or calculate the timezone using the method described on
Martian Timezones.

! Our acknowledgement to James Tauber's Mars Clock. We have created this tool based on his martian time algorithm and part of his
code. Other references are Allison, M., and M. McEwen 2000. A post-Pathfinder evaluation of aerocentric solar coordinates with improved
timing recipes for Mars seasonal/diurnal climate studies. Planet. Space Sci. **48**, 215-235, and Mars24 Algorithm and Worked Examples.

A Mars Clock

- Real time clock
- Conversion from Earth time to Mars time
- API: [InterImm/marsapi-serverless](https://github.com/InterImm/marsapi-serverless)



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Year-Month-Day

- Year 1: 1970-04-28
- 24 Months/Year
- 27~28 Days/Month

hh:mm:ss +mm:ss

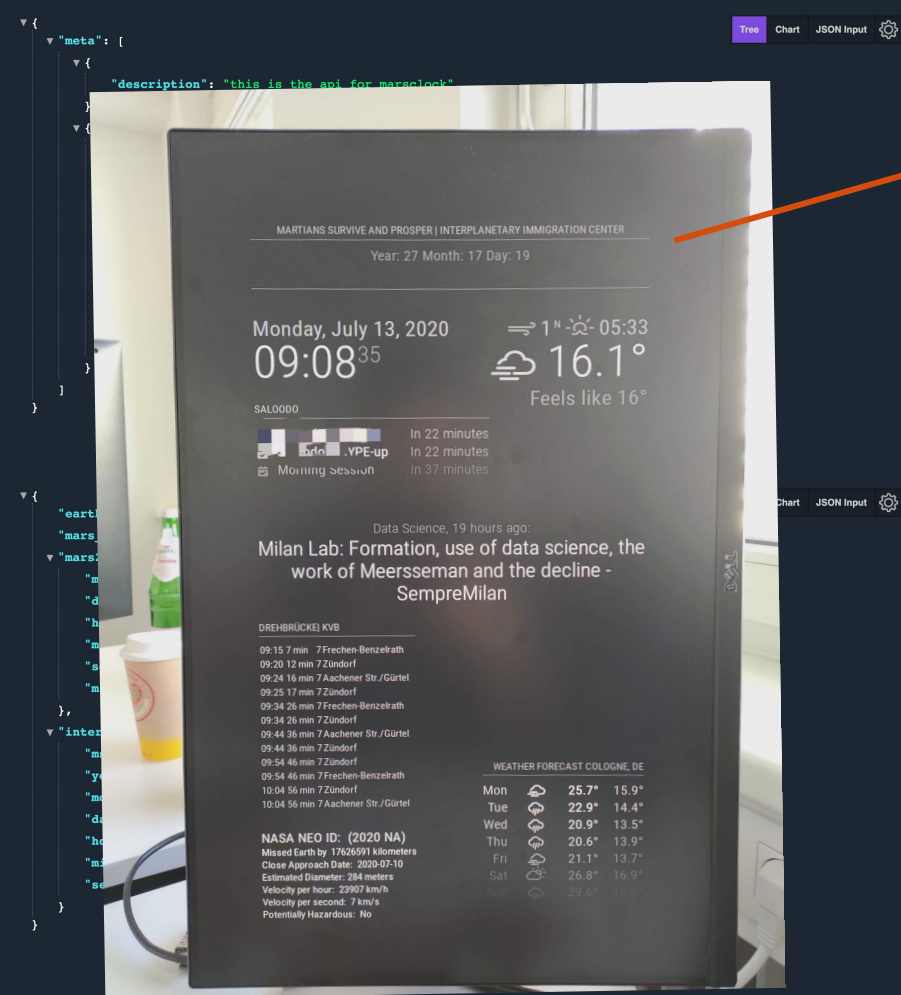
- 24h +39:35
- 25 timezones


```
▼ {
  "meta": [
    ▼ {
      "description": "this is the api for marsclock"
    },
    ▼ {
      "endpoints": [
        ▼ {
          "path": "now",
          "description": "current time"
        },
        ▼ {
          "path": "epoch/(epoch_time)",
          "description": "calculate time based on (epoch_time)"
        }
      ]
    }
  ]
}
```

```
▼ {
  "earth_utc_time": "2020-07-26T14:27:26.563118",
  "mars_timezone": 0,
  ▼ "mars24": {
    "msd": 52102.73102084205,
    "day": 52102,
    "hour": 17,
    "minute": 32,
    "second": 40,
    "millisecond": 200
  },
  ▼ "interimm": {
    "msd": 17860.702195137856,
    "year": 27,
    "month": 18,
    "day": 4,
    "hour": 17,
    "minute": 18,
    "second": 57
  }
}
```

A Mars Clock: API

- Source Code:
[InterImm/marsapi-serverless](https://github.com/InterImm/marsapi-serverless)
- Link:
<https://marsapi.interimm.org>



MARTIANS SURVIVE AND PROSPER | INTERPLANETARY IMMIGRATION CENTER

Year: 27 Month: 17 Day: 19

A Mars Clock: API

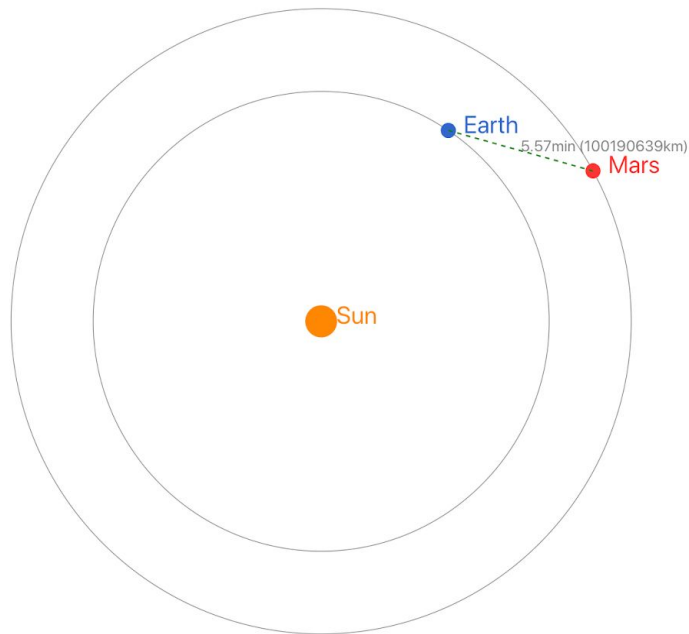
- Source Code:
[InterImm/marsapi-serverless](https://github.com/InterImm/marsapi-serverless)
- Link:
<https://marsapi.interimm.org>

Current Local Time is

July 26, 2020 7:13 PM

It takes **5.57 minutes** for your message to reach Earth from Mars. A round trip would be **11.15 minutes**.

We sketched the relative positions of the bodies.



Message My Friend on Earth: Communication Latency

- Set signal departures and destinations and date & time
- Interactive chart for time series of latency

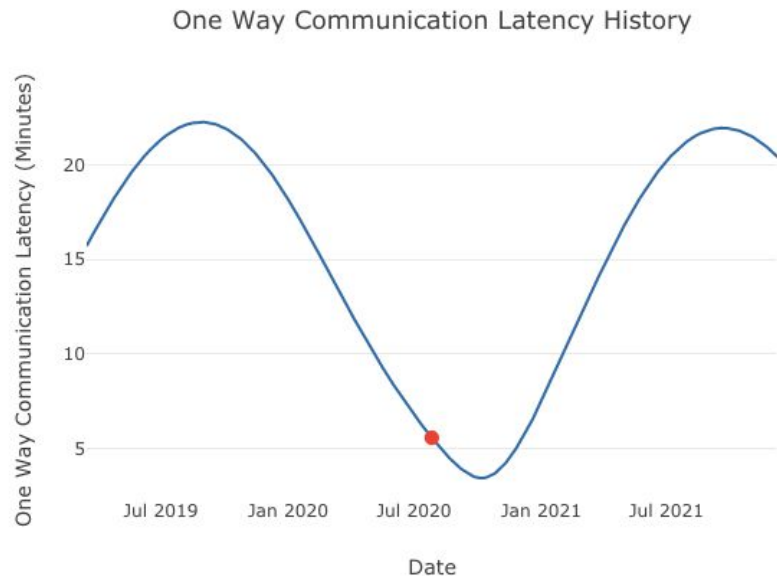


Current Local Time is

July 26, 2020 7:13 PM

It takes **5.57 minutes** for your message to reach Earth from Mars. A round trip would be **11.15 minutes**.

To find out the distance for those nearby dates, we made this interactive plot. The red dot indicates the date of your choice.



Message My Friend on Earth: Communication Latency

- Set signal departures and destinations and date & time
- Interactive chart for time series of latency



Hand in the parcel on 2019-01-01
Require arrival before 2020-05-01

https://interplanetary-logistics.interimm.org/price?departure_at=2019-01-01&arrival_at=2020-05-01

```
{  
  "arrival_at": "2020-05-01",  
  "departure_at": "2019-01-01",  
  "actual_arrival_at": "2020-05-01",  
  "actual_departure_at": "2019-08-27"  
}
```

Sending a Parcel to Mars:

Interplanetary Logistics

- Optimize departure time and arrival time
- API: build anything you like



Open Source and Creative Commons

Search or jump to... Pull requests Issues Marketplace Explore

Interplanetary Immigration Center (星际移民中心)

Interplanetary Immigration as a service; Building IT services for space-faring civilization; 星际移民中心是一家从事星际移民的机构。

Mars; 火星 <http://interimm.org> admin@interimm.org

Repositories 53 Packages People 7 Teams 5 Projects 2 Settings

Pinned repositories

Customize pinned repositories

InterimmBook

The Book of Interplanetary Civilization; 星际移民之书.

CSS 163 19

mars-clock

your martian clock

CSS 1

marsCalendar

Algorithm of Conversion between Earth date/time and Mars date/time; 火星历与地球历的换算

Mathematica 7

timeline

Interactive timeline of Mars Development; 星际移民时间线

JavaScript 9 1

mars-map

Interactive Martian map with Martian colonies

HTML 1

data-pipelines

A collection of data pipelines used by interplanetary immigration center

Jupyter Notebook

Find a repository... Type: All Language: All New

dapi

data interplanetary-immigration-center

0 0 0 0 Updated 16 hours ago

hub

A list of companies and organizations with introductions

sci-fi science-fiction space-companies

interplanetary-immigration-center

JavaScript MIT 0 5 0 3 Updated 21 hours ago

comms-latency

Get the communication latency between Earth and Mars

space mars interplanetary-immigration-center

JavaScript MIT 0 0 0 0 Updated yesterday

Top languages

JavaScript Python CSS HTML Jupyter Notebook

Most used topics

interplanetary-immigration-center space mars data sci-fi

People

7 >

Invite someone

Transparency and Openness

- Everything is on GitHub
 - Code
 - Content
 - Design
 - Discussions

Our Team



AdvantageJoccy

AdvantageJoccy



LM

emptymalei



NirViaje



Ahmed ElSherbiny

OpenSourceZombie



Probe

ProtossProbe



Syrtis Major

syrte



帝归

unionx

The Team

<https://github.com/InterImm>

LM: Physicist in Logistics ^{[Website: leima.is]}

Probe: Astronomer @ University of
British Columbia ^[Google Scholar]

Syrtis: Astrophysicist who measures the
mass of galaxies ^{[GitHub: [syrtel](#)]}

Unionx: Programmer with interest in
social psychology, blockchain and
biology ^{[GitHub: [unionx](#)]}

Joccy: Hooligangirl of Art and
Design ^{[instagram: [advantagejoccy](#)]}

Guangzi: Co-founder and COO of travel
agency Xiaodiqu.cn

power-box

The Team

Thank you

<http://interimm.org/en>
<https://github.com/InterImm>

- <https://github.com/jtauber/mars-clock>
- <https://codepen.io/HIC/pen/wwwzwRg>
- <https://jekyllrb.com/>
- <https://gohugo.io/>
- <https://getbootstrap.com/>
- <https://vuejs.org/>
- http://ops-alaska.com/time/gangale_converter/calendar_clock.htm

Built on open-source projects and as
open-source projects

Backup Slides

Mars' Calendar

Choice of Year 1

- **1955:** Clancy, R. T., Sandor, B. J., Wolff, M. J., Christensen, P. R., Smith, M. D., Pearl, J. C., ... Wilson, R. J. (2000). An intercomparison of ground-based millimeter, MGS TES, and Viking atmospheric temperature measurements: Seasonal and interannual variability of temperatures and dust loading in the global Mars atmosphere. *Journal of Geophysical Research E: Planets*, 105(E4), 9553–9571.

Get Your Interplanetary Boarding Pass

Don't forget to get the boarding pass for your interplanetary travel.

My name is	<input type="text" value="Jane Doe"/>
I will board on ship	<input type="text" value="Renaissance"/>
I am travelling from	<input type="text" value="Earth"/> to <input type="text" value="Mars"/>
I will board from spaceport	<input type="text" value="E-SH"/>
I will arrive at spaceport	<input type="text" value="M-I"/>

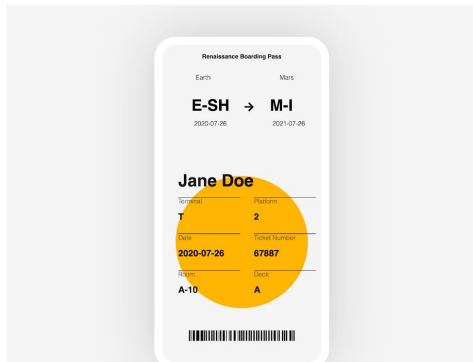
Departure Date (e.g., 2020-04-01)	Arrival Date (e.g., 2021-09-13)
<input type="text" value="2020-07-26"/>	<input type="text" value="2021-07-26"/>

My room number on the spaceship is	<input type="text" value="A-10"/>
Which deck is my room on	<input type="text" value="A"/>

My ticket number for Renaissance is	<input type="text" value="67887"/>
-------------------------------------	------------------------------------

You will find the preview of your ticket below.

The link to this ticket is here [Link to Your Ticket](#)



Make Your Ticket

- Fully customizable
- Dedicated link for the ticket



Community-driven Content

Future Interplanetary Companies

A Spacefaring Civilization

Maintained by the Interplanetary Immigration Center

Open Source and Transparent Workflow

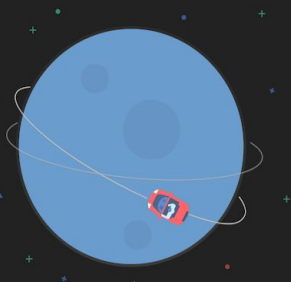
Imagine a future with your idea in it

Browse the List
Selected 101 companies

DATABASE

Add New
Add your idea to the list

ADD NEW



Showcase

Little Green Man Space Drone-Little Green Man Space Drone

Company Name: Little Green Man Space Drone-Little Green Man Space Drone

Year of establishment: 2022

Company location: California, USA

Business Type: Miniature Space Vehicle, Miniature Space Instrument

Corporate website:

The company started with miniature space vehicles, and high-Dv small-quality aircraft are their core competitiveness. Later, with the help of these aircraft, they expanded their business into space 3D printing, asteroid mining, and construction of space facilities.

Zhu Rong

Company Name: Zhu Rong

Time of establishment: 2027-03-26

Enterprise location: Mars City

Business Type: Mars Construction Industry, Space Exploration Tourism

The Mars-based entrepreneurial group is committed to the construction and renovation of Mars cities, and became the leader of the Mars construction industry in the second half of the 21st century. At the same time develop the interstellar travel industry.

This entry is provided by Jing Shu. 2020-03-26

Community Generated Content

- Community proposed companies for Martians
- Structured and human readable data
- API

☐  3 Open ☒ 86 Closed

>80 Submissions

Author ▾

Label ▾



Projects ▾

Milestones ▾



Reviews ▾



Assignee ▾



Sort ▾

☐  **name: Customize**
#164 by github-actions  was merged on 25 Mar

☐  **name: Lu-Blu**
#162 by github-actions  was merged on 23 Mar



☐  **name: Kyaw Fund**
#161 by github-actions  was merged on 23 Mar



☐  **name: Magic Fund**
#160 by github-actions  was merged on 23 Mar


☐  **name: Deep Space Resources Development Company**
#156 by github-actions  was merged on 22 Mar

☐  **name: Tianqi Technology**
#152 by github-actions  was closed on 20 Mar

 1

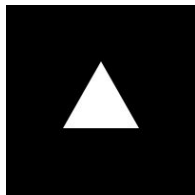
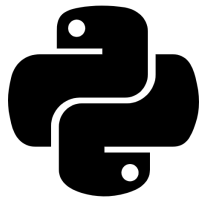
☐  **name: Yutang Mars Archaeological Institute**
#150 by github-actions  was merged on 19 Mar

☐  **name: Hanghuang**
#148 by github-actions  was merged on 13 Mar

☐  **name: The evening star**
#146 by github-actions  was merged on 10 Mar

☐  **name: New River Star-Glamour Foostar**
#144 by github-actions  was merged on 10 Mar

☐  **name: Meteor garbages collection**



Built to last

- Human readable data
- Redeployment to almost any server
- Free services
