APIs

- Nice video explanation: https://www.youtube.com/watch?v=Yzx7ihtCGBs
- Another good quick explanation: https://www.youtube.com/watch?v=6STSHbdXQWI
- Very good website for tutorials and API directory: https://www.programmableweb.com/
- Another good overview with more specifics
- Stands for Application Programming Interface
- Allows different systems and apps to interact between each other to share data or services
- Allows developers to reuse code for different apps without having to reinvent the wheel every time
- Can be used to quickly make new apps that are based on existing APIs. I.E: Making a weather app that gets it data from a weather API, making an app that uses the Google Maps API to display location (Pokemon Go, maybe?)
- Authentication usually done through API keys
- Main types of APIs are REST and SOAP
- Article about types of APIs here
- SOAP main use case is for higher security levels
- REST is for resource limitations (how many times you can use the API), fewer security requirements, browser client compatibility, discoverability(selling your API), data health, and scalability.
- What is a REST API?
- There is also XML-RPC and JSON-RPC but those types of APIs aren't as commonly used
- Google Cloud APIs: https://cloud.google.com/apis
- Popular languages for APIs: https://rapidapi.com/blog/programming-languages/

Other API resources:

- Nice list of free APIs: https://github.com/public-apis/public-apis
- http://jsonplaceholder.typicode.com/ is also pretty cool
- Good tool to test APIs for development: https://www.postman.com/

AI and Machine Learning / Google Cloud service

The different type of learning

1. Supervised Learning – The AI is presented with a set of inputs and there corresponding output, its goal would be to find an algorithm that maps correctly the inputs to some outputs.

2. Unsupervised Learning – The AI will be on its own to try and find some patterns or structure in the inputs, it is commonly used to find patterns in a data set.

3. Reinforcement Learning – The AI will be interacting with a dynamic environment and is giving a goal. Ex: drive a car, play against an opponent, etc. The AI is provided with some feedback and based on the feedback that it received (good or bad), it will try to improve from it.

Google Cloud AI

The Cloud of AI computing (the service mentioned are used on the cloud by the companies so that they don't have to have the infrastructure to process the model(s) they want to train).

- Cloud TPUs – Is a Tensor Processing Unit (custom build chips made for computing deep neural network network task), more powerful training and more accurate models, it is also cost-effective and with faster speed and scale; and

- Cloud GPUs – Is a range of NVIDIA GPUs (Graphics processing unit, has in the term graphics cards), to be used by the company for training their AI. It is also a cost-effective process in which you can scale-up (it is refer as to a migration of the computation of the learning model to a bigger and faster processing server, and this allow the company to keep running the workload the way they always have) or scale-out (which refer to expanding the computation to other/multiple servers rather than a big server. It allow the possibility to move one workload to an other server or even to combine them into a single computing resource, if needed) the workload process.

Tensor-Flow

- The AI Cloud computing of Google has support for Tenser-Flow model which to choose from a variety of models. The support for more custom model is also supported by the cloud service.

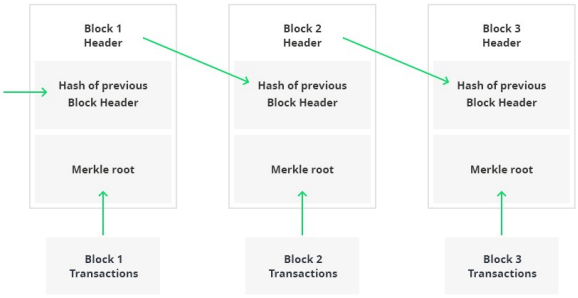
Google Cloud TPUs

- We suggest the use of cloud TPUs for the neural network for the fast and reliable result for training a custom model that fits your need.

The Blockchain

What is a Blockchain?

The Blockchain is mostly used as a digital ledger (it is a digital record of transactions made from one party to an other). It consist of **Blocks** that record transactions across many computers, so that any block can not be altered retroactively (event that already happened) without altering the other subsequent blocks. The Blockchain is managed autonomously by a process called peer-to-peer (which is the process of computing a certain workload on multiple computer which allow faster results). The use of a Blockchain as for the transferring of digital goods, remove the possibility of having the problem of double-spending which can be seen as a falsified or duplicated digital goods (counterfeit money), and in which case can lead to an inflation. The blocks are linked together using cryptography (it is a process used to secure information). The blocks all contain a *cryptographic hash* (it is the outcome of a certain message and cannot be the same hash for another message, if provided the same message twice you will be getting the same hash) of the previous block, a timestamp, and some transaction data (mostly known as Merkle root).



The usage of the Blockchain by Rocket-Elevators

The Blockchain that Rocket Elevators want to use is called a **Smart Contract Blockchain** which is intended to automatically execute, control or document relevant information about a given contract. The objective here is to reduce the need for inter-mediators, arbitration and avoid fraud lost, as well as reduce malicious and accidental exception. That way we avoid the need for a third party to come in place to act as an intermediary between two contracting entities.

The Blockchain and Google Cloud Service

Google now allows the hosting of STRATO node (is a rapid deployment Blockchain for businesses called Blockapps), in their clouds. As far has I know google doesn't directly provide a service for Blockchain but is in cooperation with Blockapps. Google provide the node (a node is one of the computer communicating to the network called peer-to-peer) and Blockapps provide the software and engineering needed so that the client doesn't need to hired Blockchain Developers and invest in a lot in hardware. So basically the service offer in their marketplace called "STRATO for business Network" is a good foundation for the client and is flexible enough to accommodate their business needs.

DevOps

Development Team	Operation Team
Code Writer (node, rails, etc)	Managing Server
Design Feature (visual)	Scaling Issues
Testing	Data Base
Etc.	Etc.

In Plain English

The DevOps is a term and not a tool. DevOps is generally viewed as a state of mind. On one side we have the developers team and on the other we have the IT team. Both play an important role for a successful information system. The development team assuring the implementation of new feature and working on testing those feature and the operation team assuring the success of the deployment and the maintenance of the servers. In a big company like Rocket-Elevators the deployment are done sequentially, once per month, and if the developers are not keeping a good communication with the operation team they might not be able to release their new feature at time. We can think of DevOps as a good communication between both party but also having a base understanding of the work that the other team do, and even switch side.

So globally DevOps regroup two team, one related to the development and the other to the operation. The team should work together as a collective. The agglomeration of their work result in the project as a whole. So as the project grow in size there should not be late release, bugs, etc.

Pricing
