

## Objective

### Study better with Lemillion

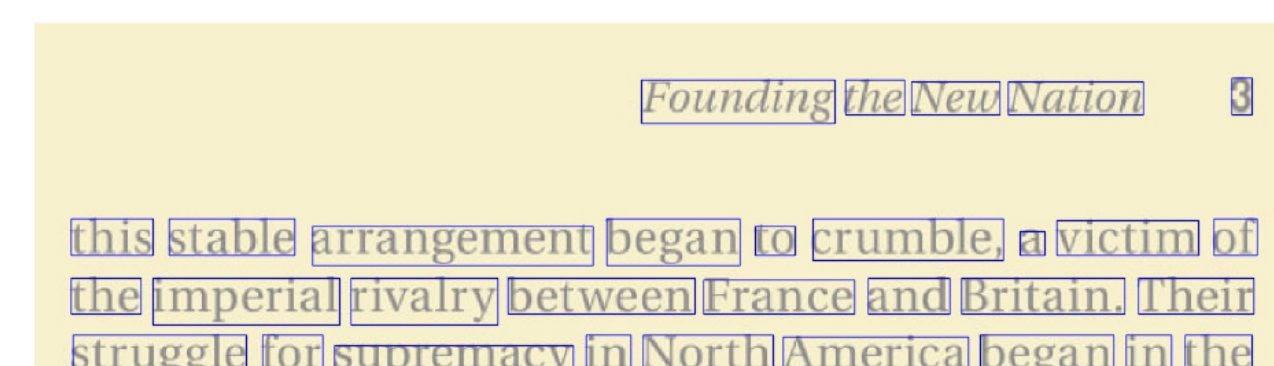
Lemillion will process textbooks, other course material, and the student exam results to provide a variety of information to students and teachers. By automating many of the basic tasks as well as generating additional learning materials and detailed statistics, Lemillion can help instructors improve students' ability to learn.

By parsing the reading materials, Lemillion can digitize regular textbooks, making them more convenient and informational. Each important keyword would be embedded with a link to the related portion of the book and interactive questions would be included with each passage. This would also allow teachers to track students' progress in the book, and the classrooms' understanding of the material.

## Progress Made

### OCR and Parsing

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### QA Net

We have completed the QA net. The question and answer model takes in a query made up of a passage and a question to answers the question. The model is designed to answer questions on reading comprehension. Currently on the SQuAD dataset we are achieving an f1 score of 88 and a em score of 81. This model will be used to generate the study guides for the user.

#### TEXT:

To the east is the Colorado Desert and the Colorado River at the border with Arizona, and the Mojave Desert at the border with the state of Nevada. To the south is the Mexico-United States border.

#### Question:

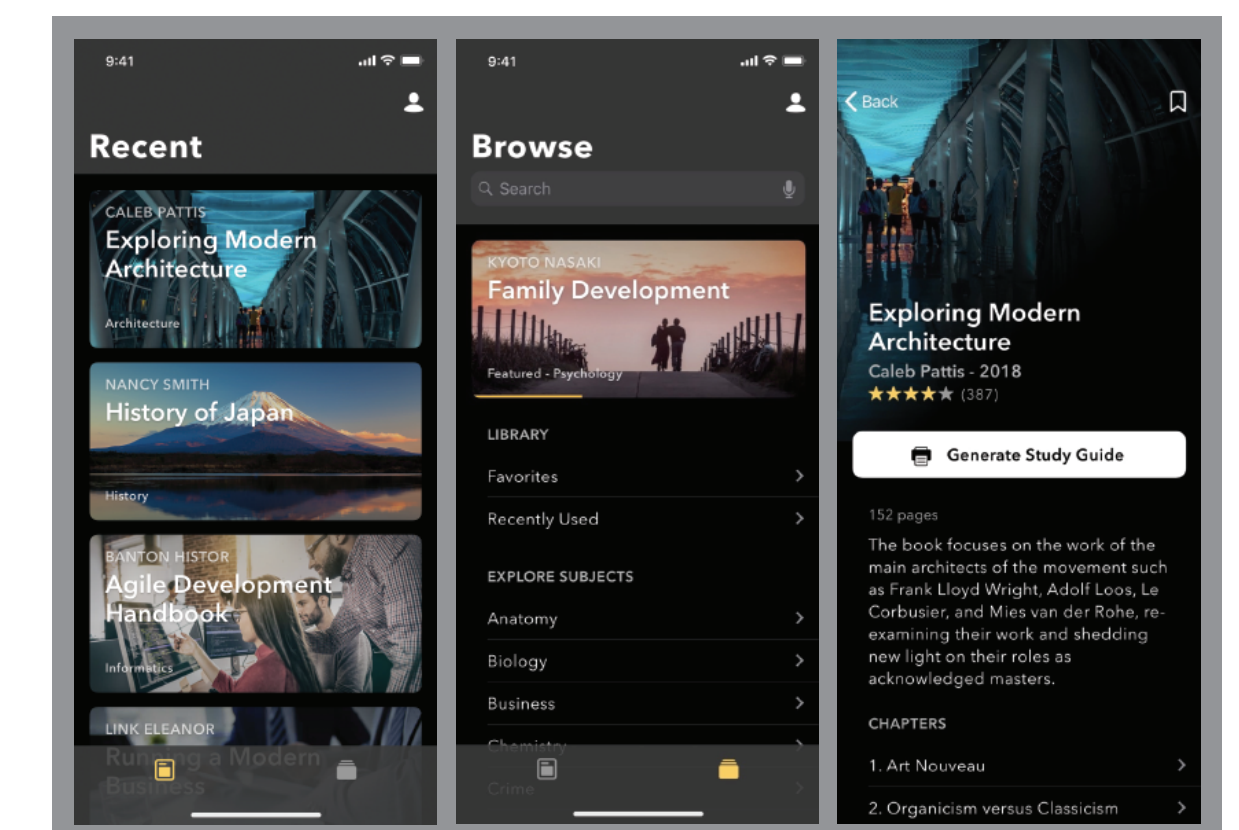
What is the name of the desert on the border of Arizona?

#### Answer:

Colorado Desert

### Server

We have almost finalized work on the server. The server is necessary to communicate with our mobile applications. It will receive images of the text, process them and return a summary and study guide to the user. The server support receiving multiple images and has been designed with a emphasis on scalability and efficiency.



## Milestones

#### Legend

- ✓ Completed
- ✗ In progress

#### Minimal Release

- Host information website. ✓
- Prototype iPhone app. ✓
- Launch question generator.

#### Expansion

- Prototype Android app.
- In-app practice exams.
- Performance analytics.

Dec 2018



#### Development

- Build and host servers. ✓
- Stabilize underlying API. ✓
- Launch answer generator. ✓
- Develop text summarizer. ✗

Mar 2019

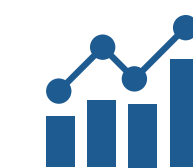


#### Stabilize

- Private alpha release.
- Refine iPhone features and UI.
- Launch study guide generator.

June 2019

Mar 2019



#### Completion

- Fully functional and tested.
- Release iPhone app to App Store.
- Release Android app to Play Store.

Aug 2019

## Future Goals

### Personalized Study Guides

A student will be able to ask Lemillion for exam study guides. It will generate personalized guides based off the student's class performance and the material he/she has completed in class up to that point. The guide will consist of summaries on topics the student needs to cover, as well as references to the textbook, should the students need more information. The guide will also include new questions generated by the AI for additional practice.

### Class Performance Analytics

Based off the all of the students' profiles in the class, a class trend chart will be generated for the teacher. This chart will tell teachers where the class is as a whole, areas of study the students are struggling in, and what topics may need to be revisited during lecture.