Snap-2-Ask

Raz Friman
Raymond Martin
Elena Villamil
Roman Stolyarov
Vipul Kohli

Thank you for meeting us today. We are Snap-2-Ask.

First, let’s start by introducing the team behind Snap-2-Ask.

Raz Friman

Raymond Martin

Elena Villamil

Roman Stolyarov

Vipul Kohli

What is Snap-2-Ask?

- Service that allows you to get your homework-related questions answered
- Simply snap a picture of your homework problem and upload it to Snap-2-Ask
- Professional tutors will do their best to provide you with an accurate answer as fast as possible

So… What is Snap-2-Ask?
• Snap-2-Ask is a service that allows you to get your homework-related questions answered
• Simply snap a picture of your homework problem and upload it to Snap-2-Ask
• Professional tutors will do their best to provide you with an accurate answer as fast as possible

Who is it for?

- Students
  - Ask for help with homework
  - Get answers to homework-related questions
- Adults
  - Answer student questions and earn SnapCash in return

Snap-2-Ask has 2 main distinct user groups. The first group consists of students who need help with homework and want to ask a specific question. The age of these students can range from elementary school students all the way up to college students.

The second group is, people known as “Tutors”. These users can consist of educated students, to regular adults, to real college professors. These users will be responsible for answering students’ questions. As compensation for their time, these tutors are rewarded with SnapCash. In the future, this SnapCash will be able to be traded for real money.

How it Works - Students

- Download the iOS application
- Login or create an account
- Snap a picture of a homework question
- Select a category for the question
- Post the question and wait for a response

So what is the process for a student to ask a question.

First, the student needs to download the iOS application.

Next, the student must create an account or login via Facebook or Google+

Next, the student simple snaps a picture of the homework question they need help with, and select which category best represents the question.

Finally, the student clicks “Post” and waits for our tutors to answer the question.

How it Works - Tutors

- Visit the website www.snap2ask.com
- Login or create an account
- Optionally certify yourself in your favorite categories for added bonuses
- Browse unanswered questions and answer any that you can

Now, let's look at the process for a tutor to answer a question.
First the tutor needs to visit the Snap-2-Ask website as www.snap2ask.com
Next they need to either create an account or login.
After logging in, you can certify yourself in your preferred subjects. This rewards you with extra bonuses every time you answer a question within that subject.
Next, you can browse through all of the unanswered questions on Snap-2-Ask. You can filter these down by category, by your preferred categories, or by searching for a specific question.
Next you can view the image of the question, and post your answer.
The student will receive a notification immediately after the answer is posted.

Special Features - Web

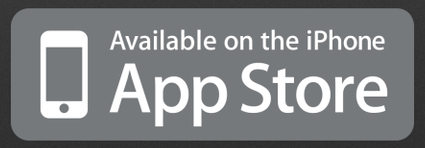
- Google+ and Facebook authentication
- Server is hosted in the cloud for easy future scalability
- Dedicated domain (www.snap2ask.com)
- Google Analytics to track customer usage
- Complete RESTful API

We have implemented some special and unique features within Snap-2-Ask.

- They include our own user account system, which supports both Google+ and Facebook logins.
- Our server is hosted in the cloud using Amazon's AWS technology. So scaling our servers in the future is as easy as a few simple clicks.
- We have our own dedicated, easy to find, domain name. As long as people know the name of our service, our website will never be hard to reach.
- We have implemented Google Analytics into our web server so we can track customer usage. This can help us see how many users are visiting the sites. This is very helpful when trying to track how well our website is growing.
- Finally, we have a complete RESTful API that holds all our application together.

Special Features - iOS

- Google+ and Facebook authentication
- iOS Push Notifications sent as soon as a student's question is answered
- Approved and available today in the iOS App Store



Some more special features, related specifically to the iOS application include:

- The same Google+ and Facebook authentication from the website.
- iOS Push Notifications are supported, so users are alerted immediately whenever an answer is posted to their question. This eliminates the need to users to constantly check their phone to find out if there are any new answers.
- And finally, we are very proud to say that Snap-2-Ask is available in the Apple App Store.. TODAY!

RESTful API

- 100% RESTful compliant
- JSON input/output
- Allows for simple and easy implementations on other platforms in the future
  - Android
  - Windows Phone
- Documentation: http://docs.snap2ask.apiary.io

```
Routes:

/users

/users/:id

/users/:id/questions

/users/:id/answers

/users/:id/verified_categories

/categories

/categories/:id/validation_questions

/questions

/questions/:id

/questions/:id/answers

/answers/:id

/search/questions
```

Let’s look at some more details about our RESTful API

First of all it is 100% RESTful compliant. This means that all of the standard naming conventions were applied to the routes used by the API. This makes it very simple and easy for other developers to understand what each route accomplishes.

All routes accept and return JSON.

By creating such a robust API, we are paving the way for a simple and easy development of the mobile application on other platforms.

Finally, we have documents all of our API online at the following link.

Let’s take a quick look to see what is documented and how it is displayed.

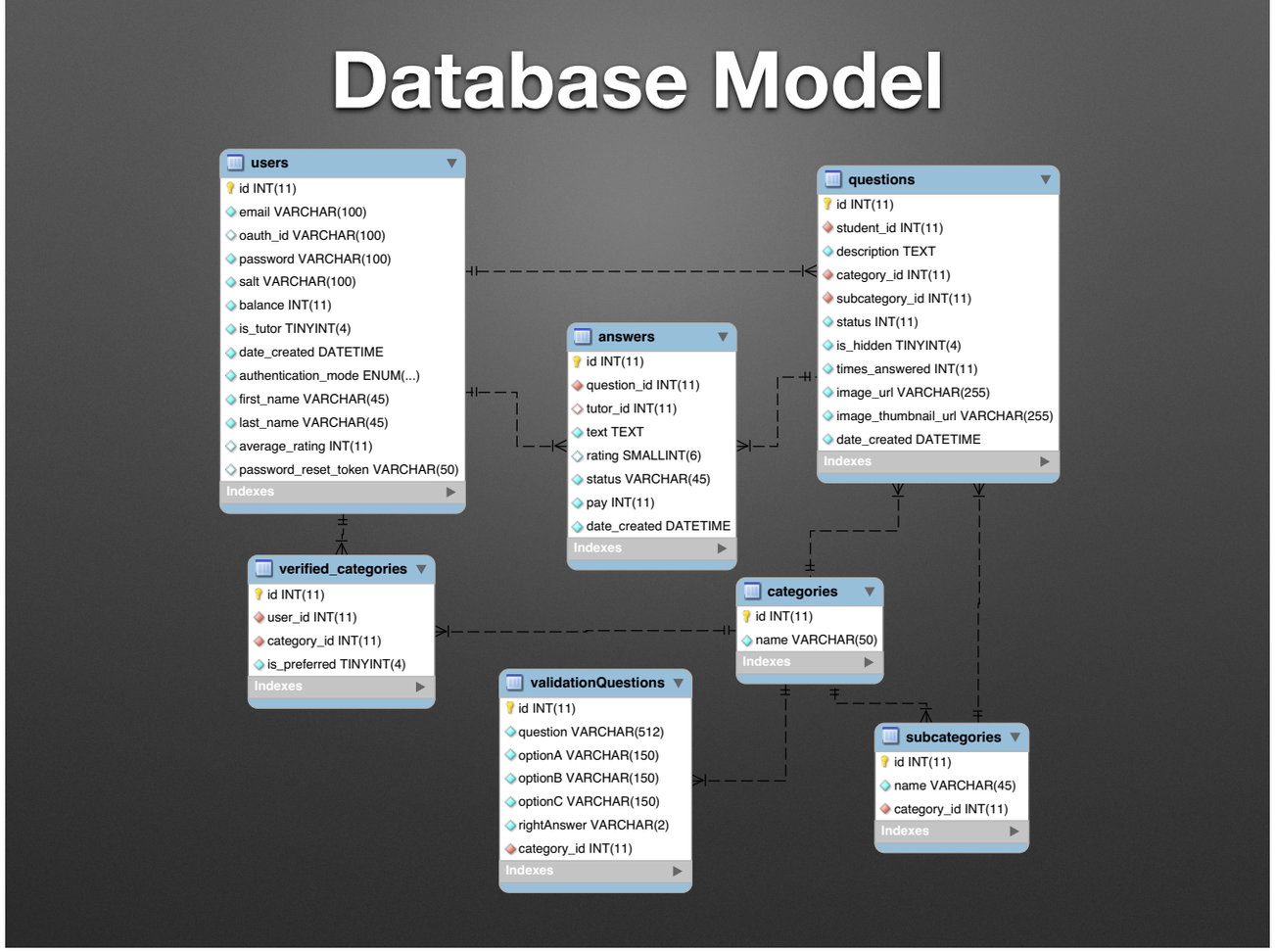
* Click the link *

Show the GET:/categories route and show the JSON output

Security

- All MySQL queries are created as Prepared Statements using the PDO (PHP Data Object) Library
  - Prevents SQL injection attacks against the database
- Passwords are hashed and salted securely in the database
- Secure password reset mechanism

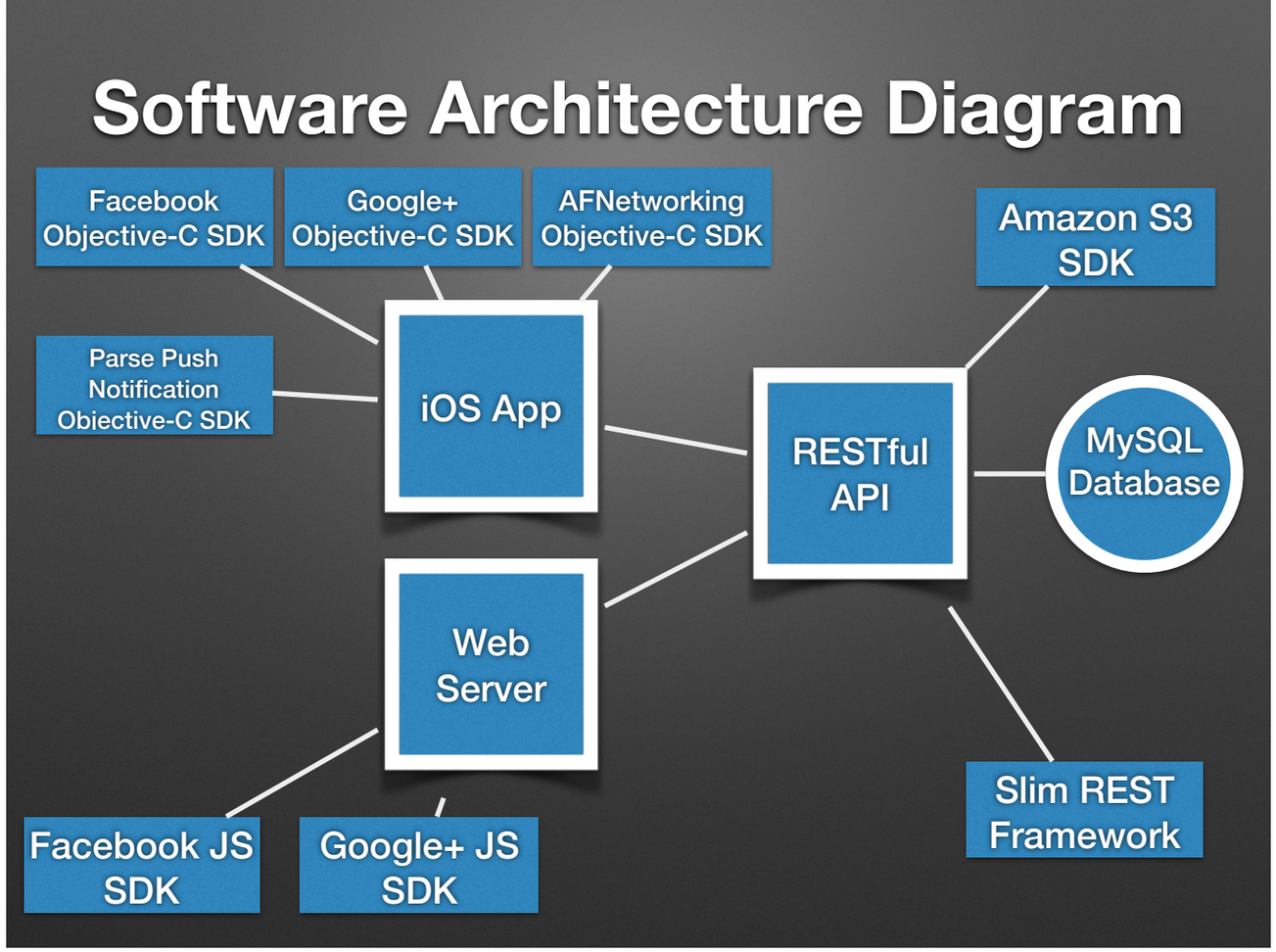
Security was taken into account before work even started on developing Snap-2-Ask.
We have ensured that every single SQL query is executed as a prepared statement with named parameters. This guarantees that the correct SQL statement is performed, regardless of how sanitized the user input is.
Additionally, we have taken best practices while storing user passwords. Passwords are never stored in plaintext, instead we store them by hashing each password with a unique salt.
Furthermore, we have implemented a password reset mechanism which assigns user a unique token which is then emailed to them along with their user_id. The password can only be reset if the token matches the correct user.



Here is a look at our database model.

Some unique things to note here is that have are taking advantage of full-text indexes on the questions->description field. This allows us to use MySQL's full-text boolean searching feature to search for questions based on their textual description.

Therefore you can search for questions using the "OR" and "AND" operators to find questions with greater specificity.



Here is our software architecture diagram. As you can see, we are using a 3-tier architecture.

In the front-end we have both the iOS application and the web server. These layers communicate only with the RESTful API. The REST API serves as a middleman between the front-end and the MySQL database back-end. This way, the user is never accessing the database directly. The most significant benefit is, this allows us to develop the business logic independent of any of the front-end app's presentation logic. This will exponentially reduce the work needed in the future to add support for more mobile platforms.

Demo

Now it’s time for a demo. We will now show you just how simple and easy Snap-2-Ask is to use!

1. Student - Login to the iPhone application
2. Student - Take a photo of math question (We will provide this question)
3. Student - Select the math category and post the question
4. Tutor - Login to the website
5. Tutor - Browse for the question that was just posted
6. Tutor - Post the answer to the question
7. Student - Receive a push notification and see the answer
8. Student - Rate the answer

What's Next?

- Real payment system
- Support for more mobile platforms
  - Android
  - Windows Phone

So what is planned for future releases of Snap-2-Ask?

Well first we are going to implementing a real payment system. By creating our own virtual SnapCash system, adding the ability to withdraw and deposit money will not be a challenge.

Next we want to support more mobile platforms so a greater majority of students with smartphones will be able to take advantage of the Snap-2-Ask service. Some examples of these will be to support the Android and Windows Phone operating systems.

Questions or Comments?

Thank you for your time. Do you have any questions or comments?