Party Mode On

Master's Degree Project Report fulfilling the requirements for the course
COEN 499: iOS Mobile Development
Fall 2017

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Preface

This Project report has been prepared in fulfilment of the requirement for the course: **COEN 499: iOS Mobile Development, Fall 2017** of the program M.S. in Computer Science in the academic year 2016-2017. The blend of learning and knowledge acquired during the quarter from personal learning is used to come up with this project.

Varun Srinivasan

Acknowledgements

We would like to extend our gratitude towards **Dr. Silvia Figueira**, who enhanced my knowledge and inspired me to make this project. I would also like to thank Santa Clara University for providing me the opportunity to learn the subject and apply its core concepts into making this project.

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Abstract

One of the main reasons celebrating is so important is because it reflects an overall attitude of gratitude and enjoying what we have, instead of focusing on what we don't have or only on what we want in the future[1]. Celebrations of milestones and goals achieved provide us the opportunity to take a much-needed break, to reset, and then to set even bigger and bolder targets. Additionally, celebrations let us reflect on the right path forward before setting out on it, and to build confidence for the future by acknowledging what we've been able to achieve in the past. Such a celebration of an event is essential with peers including friends, family and colleagues. In a fast life that we are in currently, inviting people to an event has become difficult for many reasons. Firstly, searching for the right people and their contact mode, followed by the most difficult task of jotting down the people to be invited, then preparing an invitation with a note and finally sending out the invitation in the preferred mode. In this fast paced world with smartphones, the above said tasks can be handled with the app "Party Mode On".

Introduction

“Party mode on” is developed on the iOS mobile platform. The app lets an organizer to send invitations to his contacts. An RSVP form is auto generated once an event is created. Any one from a family can register to an event to avoid miscalculation. Once RSVPed, the organizer gets a count of how many people are coming to the event. Various menu items are provided in the app to create and manage events easily. Also, options of editing profile and password is available in the app.

Architecture

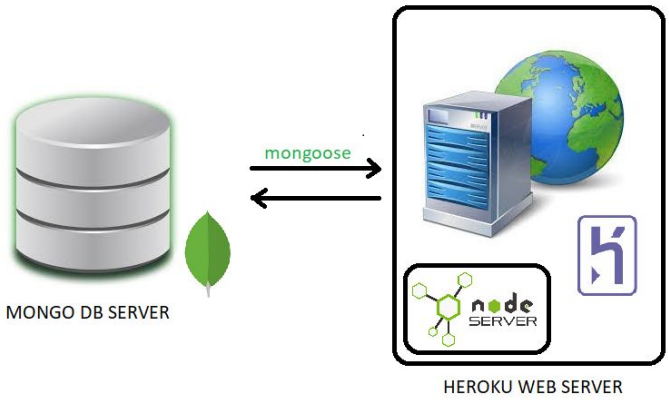


Fig 1.1 - Web and DB servers

The web app is the backbone for this app acting as a data source. By this, we can say that this app conforms to the MVC pattern where the web server acts as the controller, and the mongo database server acts as the model. The webserver is built with node.js using mongoose package to connect and exchange data from Mongodb. Also, nodejs and Mongodb are installed on a Heroku cloud system. The code deployment is done using Heroku CLI with public key verification on the client terminal.

For convenience, the deployment happens in two stages. The first step is to sync up the code to be deployed onto Github and then link the github repository with the heroku repository to push the code to Heroku. In this case, Github repository acts as a staging area before the code is deployed to the production system.

The next half of the architecture covers the interaction of the iOS application with the web server. In Fig 1.2, it is mentioned that the client application, in our case, the iOS mobile application communicates with the web server with several REST API routes. REST API stands for **Re**presentational **S**tate **T**ransfer **A**pplication **P**rogrammable **I**nterface. The beauty of using REST APIs is that the client does not require to know anything about the structure of the API. Rather, the server needs to provide whatever information the client needs to interact with the service[2].

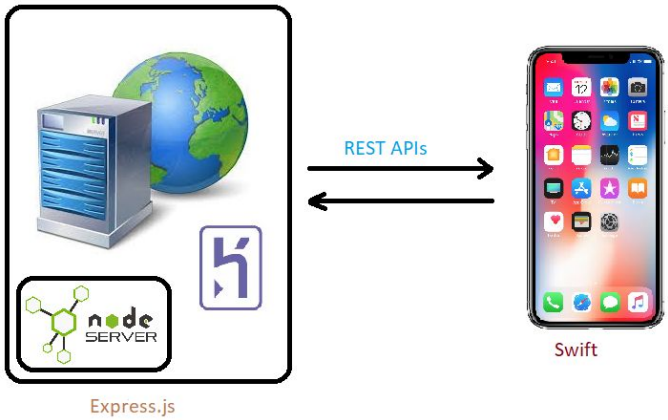


Fig 1.2 - Interaction of Swift with web server

Technical Details

1. Technologies used

Area	**Technology**
Client	*Swift 4 (Xcode 9)*
Web	*Nodejs (v8.1.4)* - Express → API routes, web page rendering - Body-parser → Parse JSON for incoming POST requests - Crypto-js → Hash password to store in the MongoDB
DB	*MongoDB (v3.4.3)* - mongoose → node module to connect to DB

Table 2.1 - Technologies used

2. API routes

Method	Route	Example **body** content

POST	/checkuser	{
		"userid": "varunsrinivasan",
		"password": "abc"
		}

POST	/newuser	{
		"userid": "johncena",
		"password":"abc",
		"firstName":"John",
		"lastName":"Cena",
		"dob":"09/21/1991",
		"phone":4081548765,
		"address":"1050 Benton Street, Santa Clara 95050",
		"occupation":"Student"
		}

POST	/newevent	{
		"name": "Career Guidance Program 2017",
		"date": "2017-11-01",
		"startTime": "09:00 PM",
		"endTime": "12:00 PM",
		"venue": "Community Hall, San Jose",
		"userid": "varunsrinivasan",
		"attendees": ["testuser","varunsrinivasan","jillgoodacre"]
		}

POST	/createmessage	{
		"name": "Career Guidance Program 2017",
		"organizer":"varunsrinivasan",
		"message":"Hello!",
		"sender":"varunsrinivasan"
		}

POST	/acceptevent	{
		"name":"Career Guidance Program 2017",
		"attendees":{
		"userid":"varunsrinivasan",
		"numOfGuests":3
		}
		}

POST	/messages	{
		"name": "Career Guidance Program 2017",
		"organizer":"varunsrinivasan"
		}

GET	/users	-
GET	/userdetail?id=<userid>	-
GET	/upcomingselfevents?id=<userid>	-
GET	/upcomingacceptedevents?id=<userid>	-
GET	/upcomingunacceptedevents?id=<userid>	-

Table 2.2 - API routes

3. Client pageflow

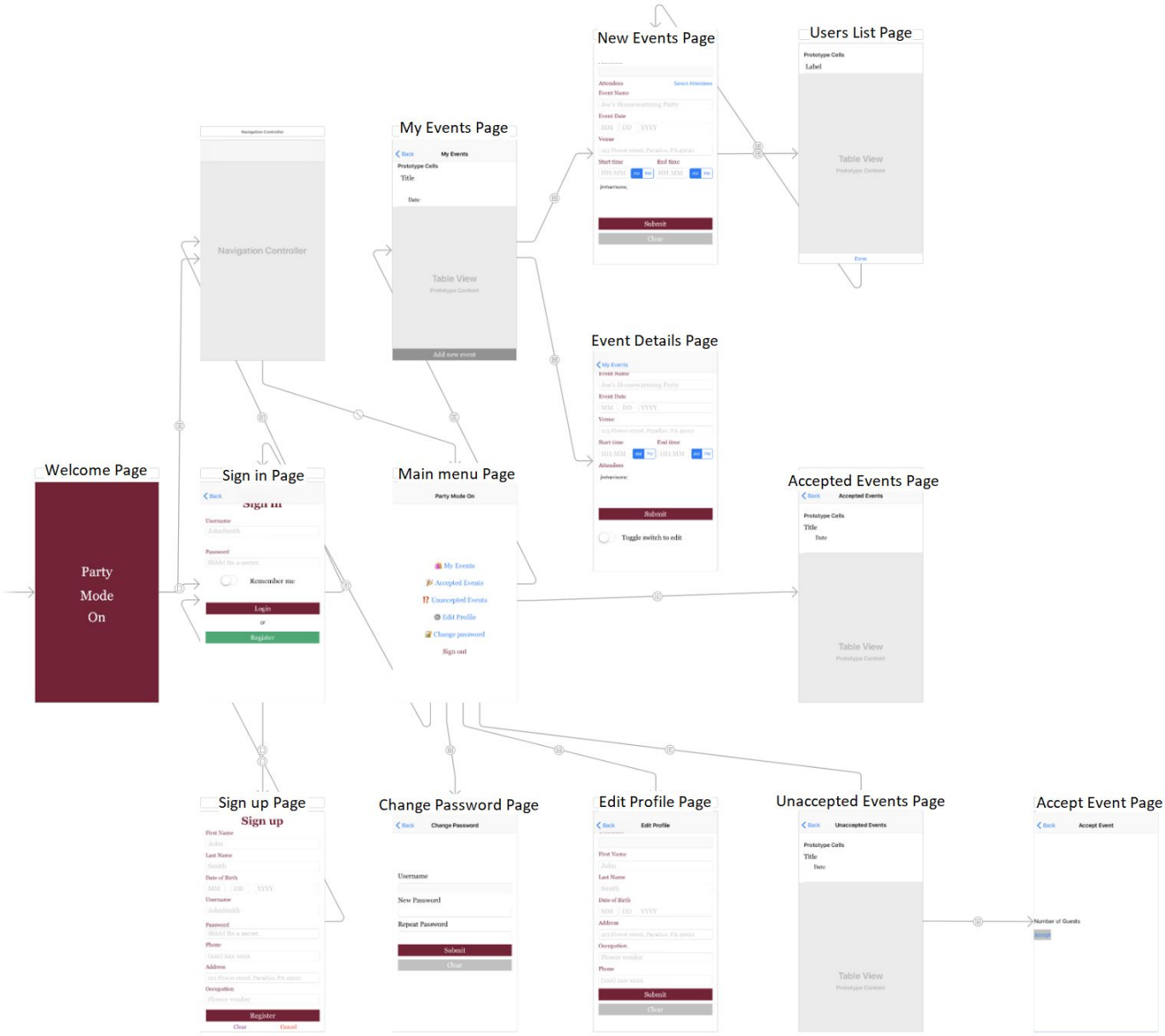


Fig 2.1 - App flow

4. DB collections

NAME	DOCUMENTS
events	3
users	4

Fig 2.2 - DB Collections

5. DB collection - Users model


```
{
   "_id": "varunsrinivasan",
   "password": "0a382dfe1e503c9af1ef59348ae9f60188e69a01720f5d5c2a35c8f27a0d0f93",
   "firstName": "Varun",
   "lastName": "Srinivasan",
   "dob": {
      "$date": "2017-04-29T00:00:00.000Z"
   },
   "phone": 6692858325,
   "address": "2147 Newhall Street, Santa Clara 95050",
   "occupation": "Student",
   "__v": 0
}
```


Fig 2.3 - Model of Users Collection

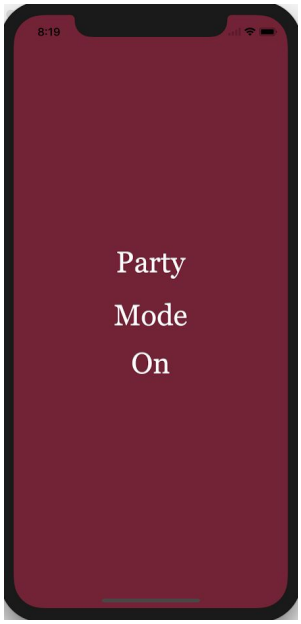
6. DB collection - Events model


```
{
        "_id" : ObjectId("5a2872026692a30431167081"),
        "eventName" : "New Year Celeb 2018",
        "eventDate" : "01/01/2018",
        "creationDate" : ISODate("2017-12-06T22:41:06Z"),
        "startTime" : "11:00 PM",
        "endTime" : "01:30 AM",
        "venue" : "Normandy Pub, Newhall St, Santa Clara",
        "attendees" : [
                {
                        "userid" : "varunsrinivasan",
                        "numOfGuests" : 0,
                        "accepted" : false,
                        "_id" : ObjectId("5a2872026692a30431167082")
                },
                {
                        "userid" : "johncena",
                        "numOfGuests" : 0,
                        "accepted" : false,
                        "_id" : ObjectId("5a2872026692a30431167083")
                },
                {
                        "userid" : "johnsmith",
                        "numOfGuests" : 0,
                        "accepted" : false,
                        "_id" : ObjectId("5a2872026692a30431167084")
                }
        ],
        "__v" : 0
}
```

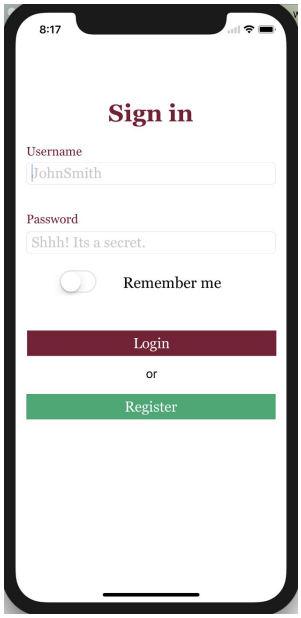

Fig 2.4 - Model of Events Collection

Results

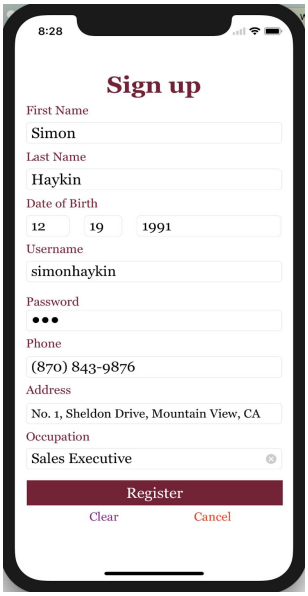
1. Welcome page

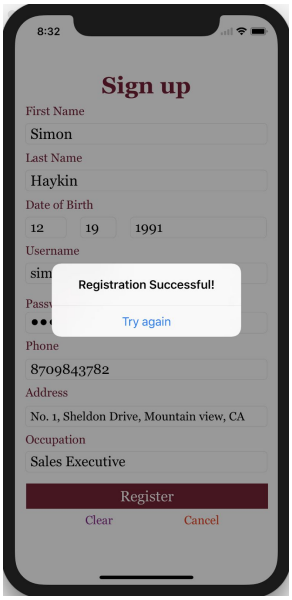


2. Login page

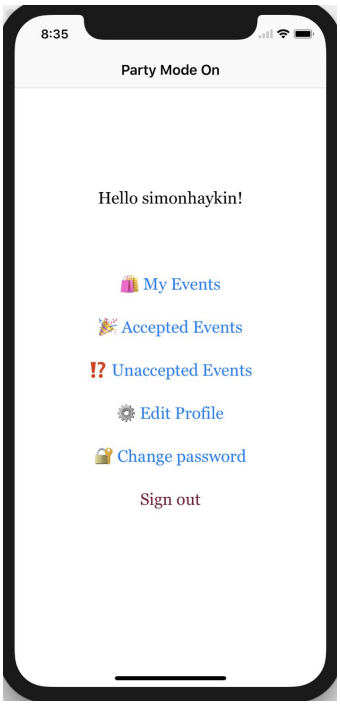


3. Register page





4. Main menu page



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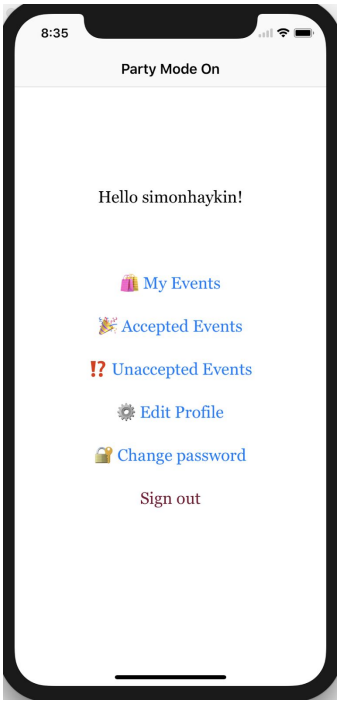
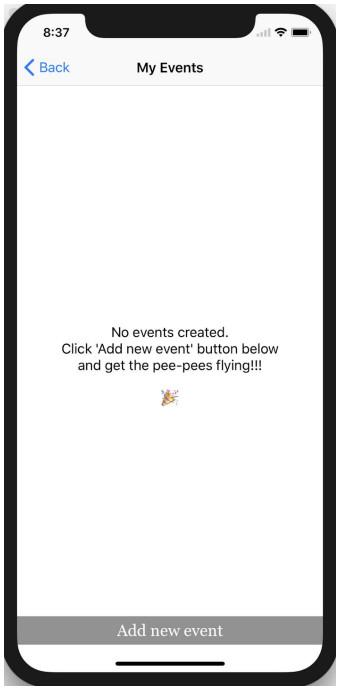
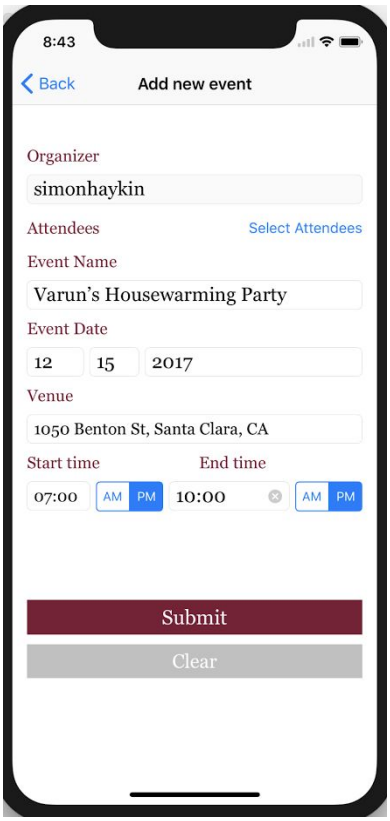
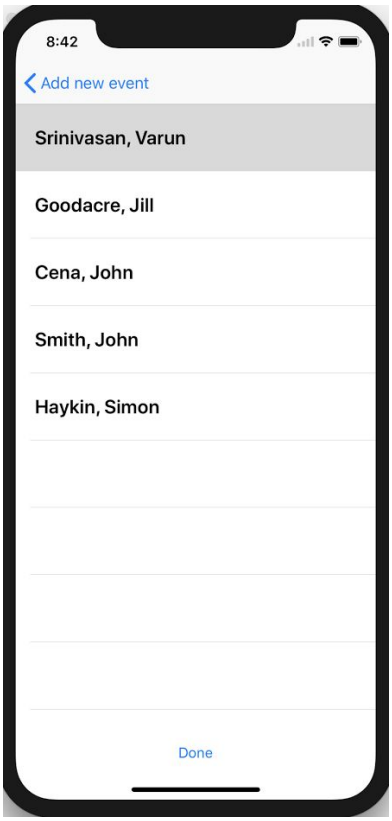
5. My Events page

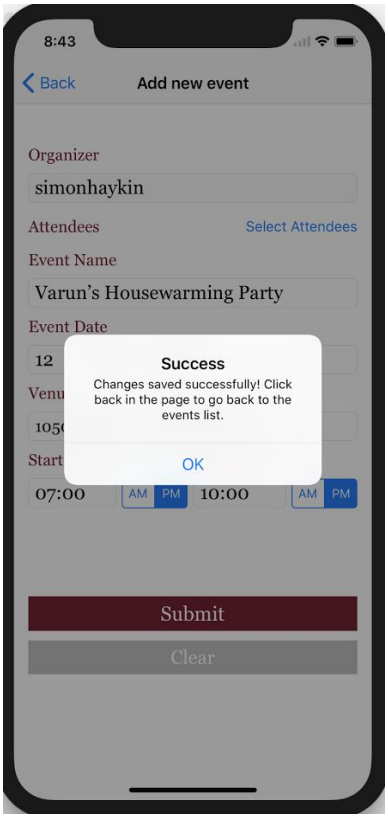


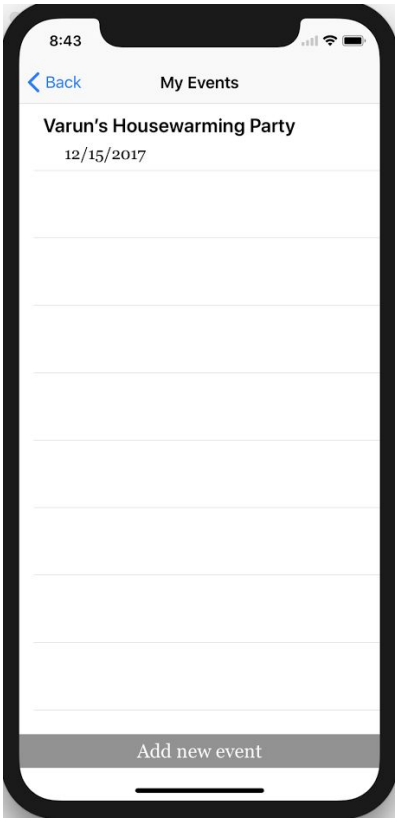


6. Create New Event page

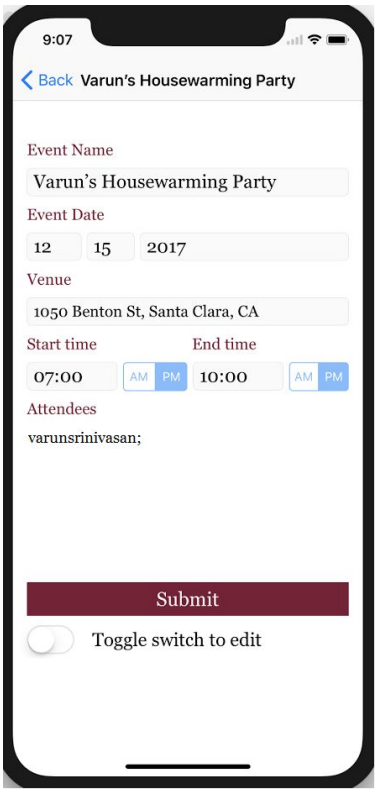








7. Event Details page



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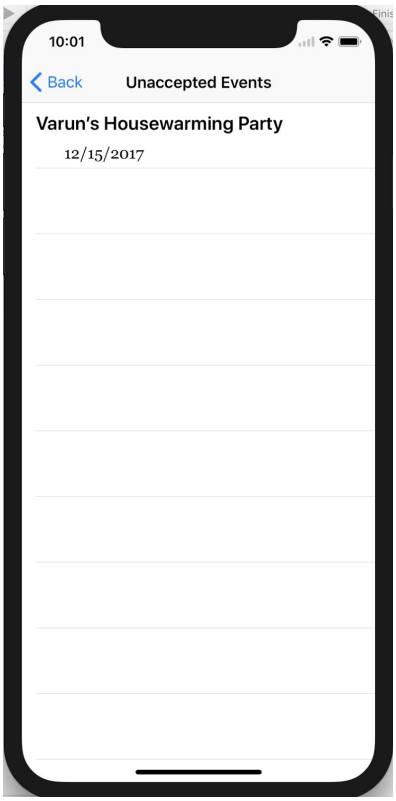
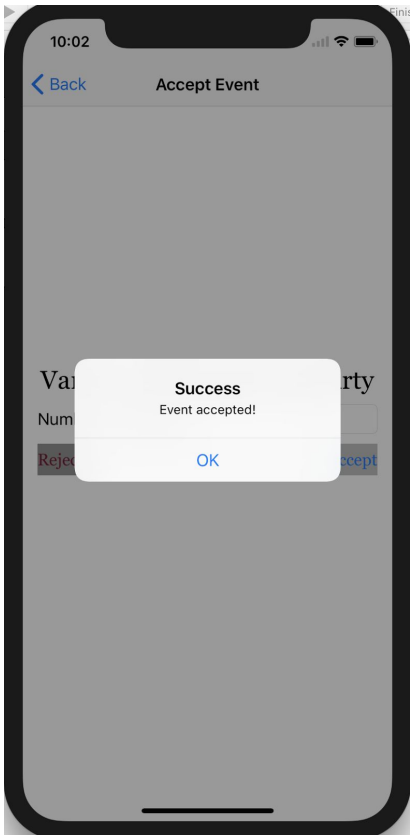
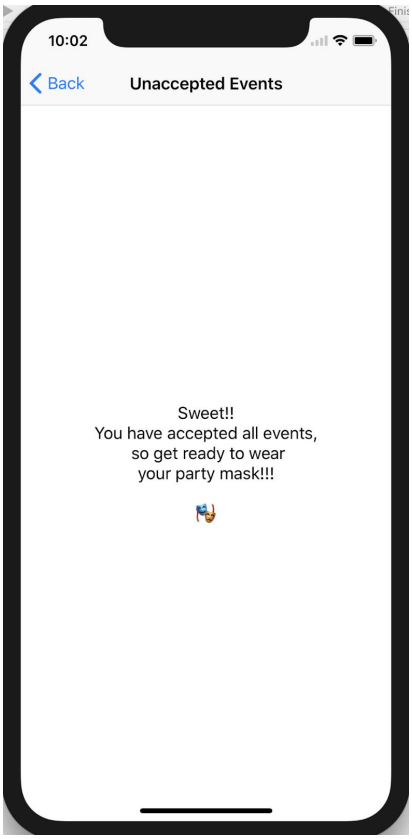
8. Unaccepted Events page







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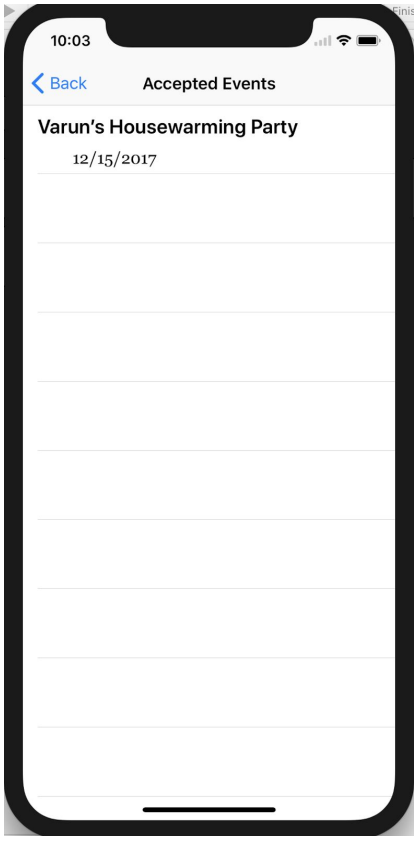
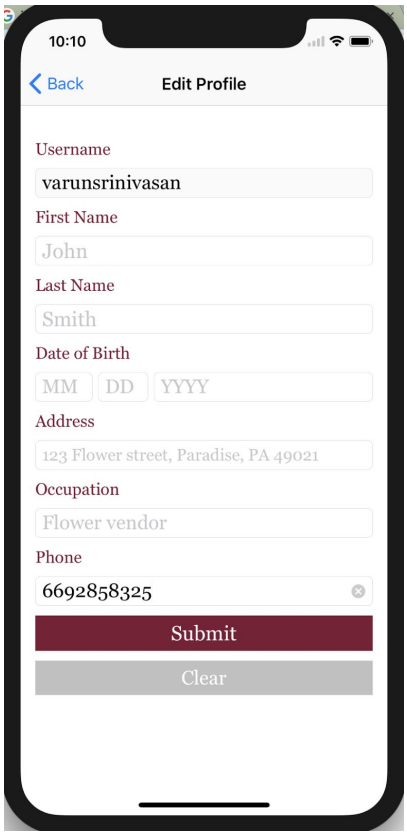
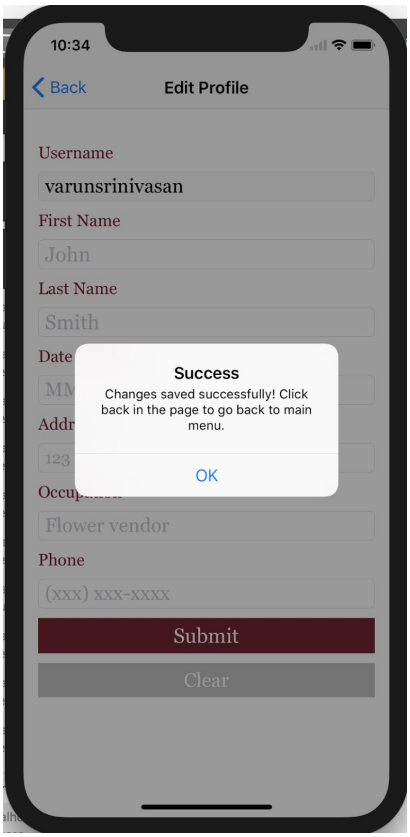
9. Accepted Events page



10. Edit Profile page





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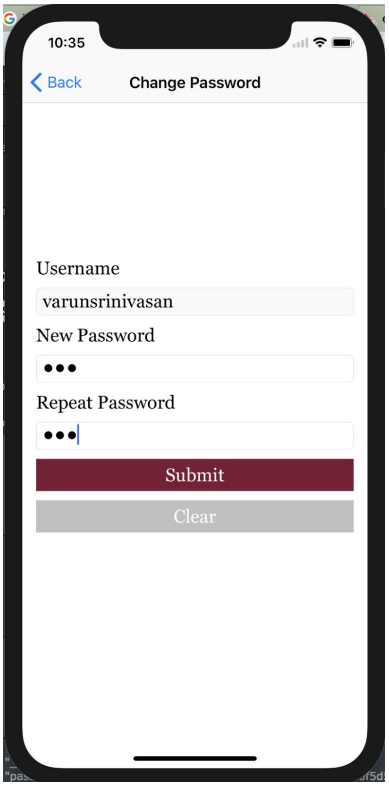
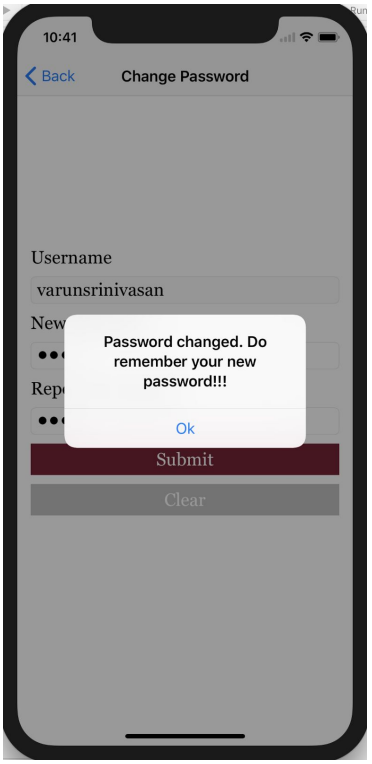
11. Change password page





References

[1] https://medium.com/@andrewmerle/throw-a-party-why-it-s-so-important-to-celebrate-5501ca4c6b74

[2] https://stackoverflow.com/questions/671118/what-exactly-is-restful-programming