

Executive Summary of HBD!

HBD App, or a simple *Happy Birthday App*, is developed using SwiftUI for the front-end and Python Flask for the backend. The front-end is composed of three tab views, each with a different functionality. The backend is split into three sections of API, tasks, and analytics. This app aims to facilitate tracking birthdays easier for people without having to clutter their calendars. It sends them an email notification every Monday at 9AM (CT) of upcoming birthdays in that week and aggregates the upcoming birthdays in a summary view for easy viewing. The calendar tab is also there to help people get quickly contextualized, and adding and deleting birthday has never been easier!

In terms of cost, as long as the app is not closed, there won't be a need to incur additional costs on most of the GET requests. Majority of the activity would come from making a PUT, DELETE, or POST requests for birthday update, deletion, and creation respectively. In such a case, it would come around to being 5 million calls a day. 5 million calls would cost 15 dollars total. So monthly cost would be around 465 dollars. Another big source of cost would be storage. Assuming each user has 2 pictures and each picture is around 10MB, the total storage space would be around 20 thousand GB, which comes down to being around 400 dollars for monthly cost. Finally, the mailing cost from mailgun server would be actually the biggest cost source. Assuming we send weekly email, it would come around to being 3,200 dollars in total (4 million emails divided by a thousand multiplied by \$0.80). As a result, our total cost would amount to around 4,065 dollars a month.