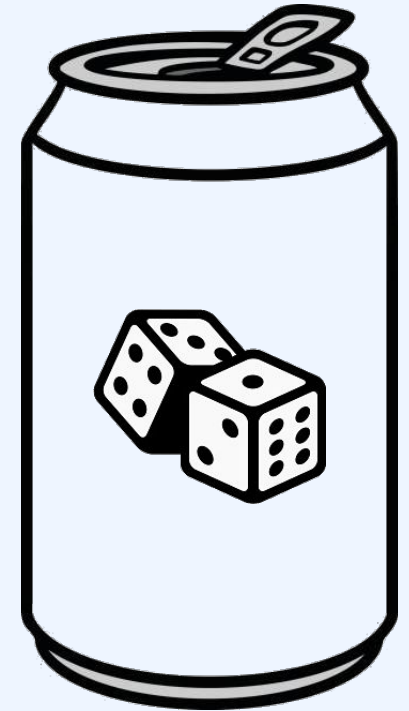


An Online Drinking Game

Low cost highly scalable product development on AWS

Product development is easy when all of your users are drunk



Dr Nick Sullivan

Ph.D. in multi-robot task allocation & collaborative localisation



MAXMINE

Automated **haul/load** analysis to reduce inefficiencies in **mining**

tic:toc

Automated **financial** analysis to reduce inefficiencies in **lending**

- Back-end developer (Python/C#)
- Algorithm design
- Automated testing



The Game - Death Dice

A game I've been playing with friends for many years

*It caused a **noticeable increase** in my water bill*

Matt, death dice player



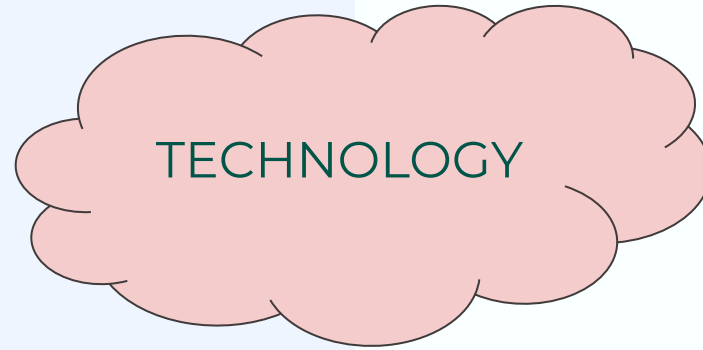
Roll two dice, highest value wins

- If you win three times in a row, you get another dice until you lose
- If you roll two of the same number, you roll again until you roll a different number
 - Two 1's + {1, 2, 3}: Finish your drink
 - Four 2's: Hold two beers
 - Three 3's: Have a shower
 - Four 4's: Put your head on the table
 - Five 5's: Buy something from Wish.com
 - Six 6's: Jump in a pool
- ...and many more

Project Plan



A drunk idiot



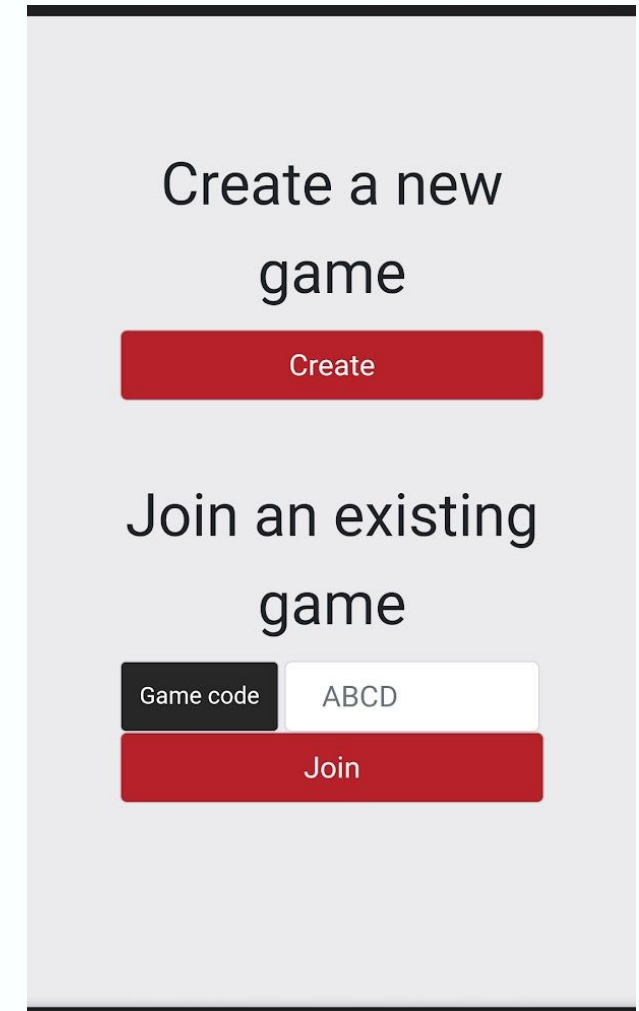
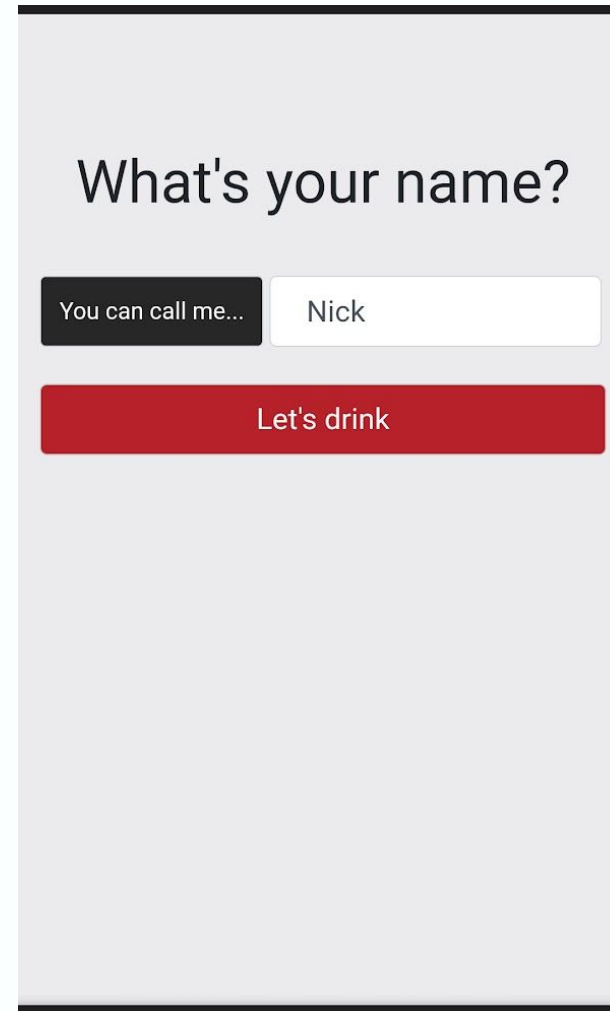
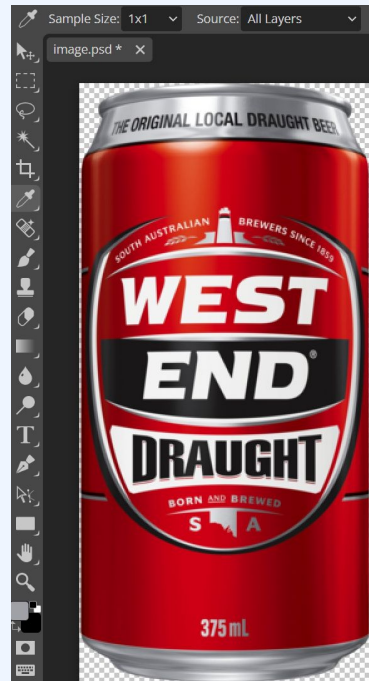
Other drunk idiots

- No market demand
- No monetisation strategy
- No budget

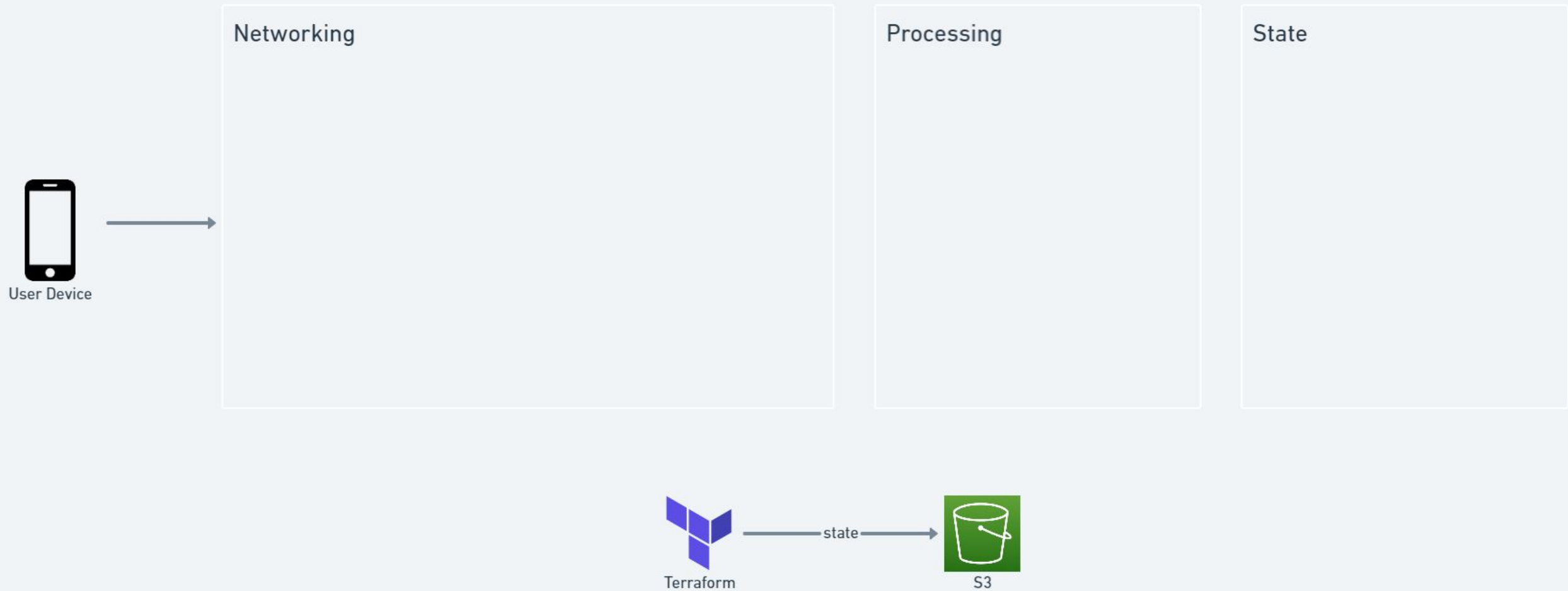
User flow

- Set your nickname
- Create a game (generates a code)
- Share game code
- Other players join using game code
- Two buttons
 - Roll dice
 - New round

Colour scheme
“motivation”

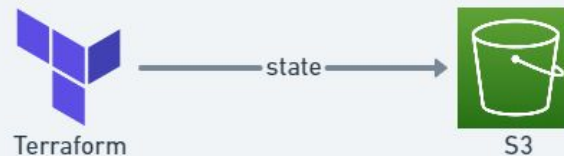


Let's get technical



Let's get technical

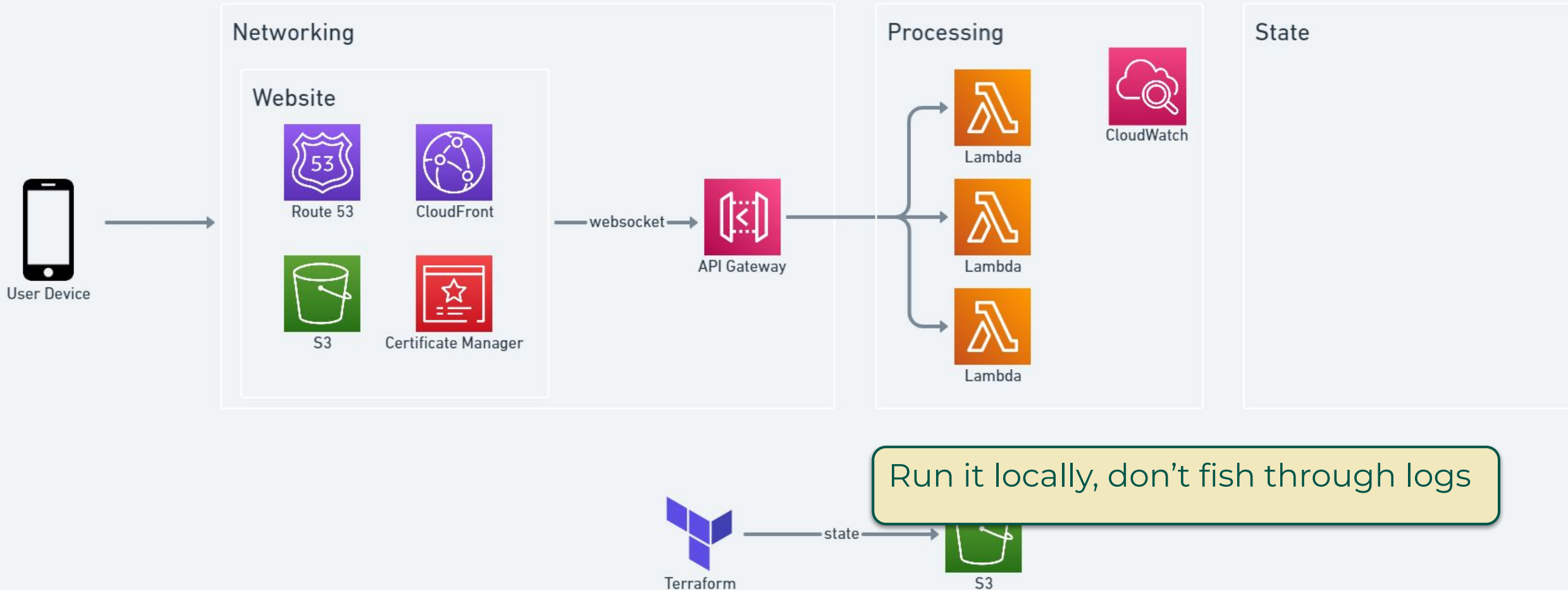
There are manual steps to re-deploy name servers. Use separate terraform scripts for website **domain** and website **content**



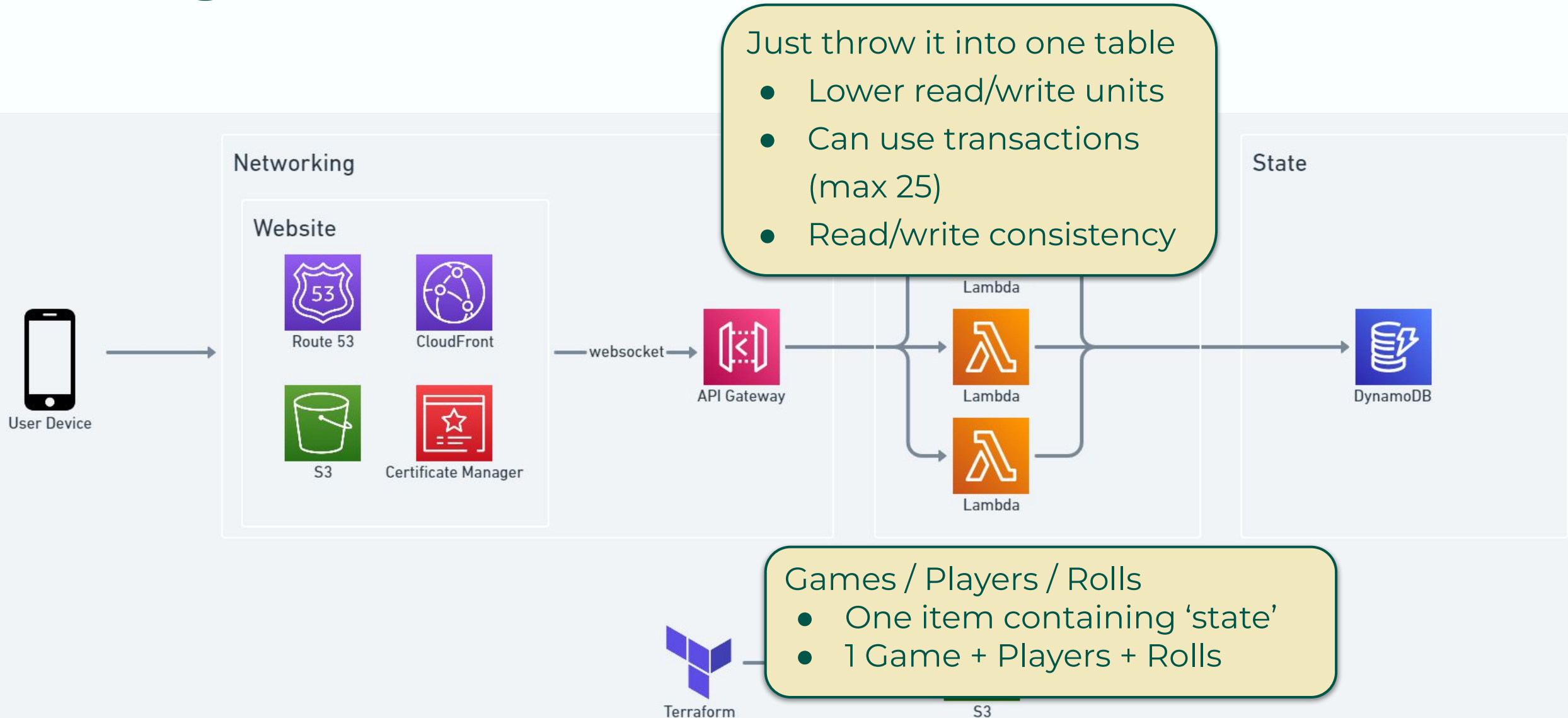
Let's get technical

Split up the API Gateway deployment

- API Gateway needs the Lambda ARNs
- Lambda's need the Gateway ARN



Let's get technical



Dealing with concurrency

Pessimistic concurrency

- A process grabs the “talking stick” before it writes to the database
- More overhead
- Have to deal with services not returning the stick

Optimistic concurrency

- All items have a version, bumped every write
- If the version you were expecting is out-of-date, abort the write and try again
- Inefficient for high-demand resources



Quality assurance

Manual testing is boring. Automated tests are fun.

If all the tests pass, I'm confident to deploy.

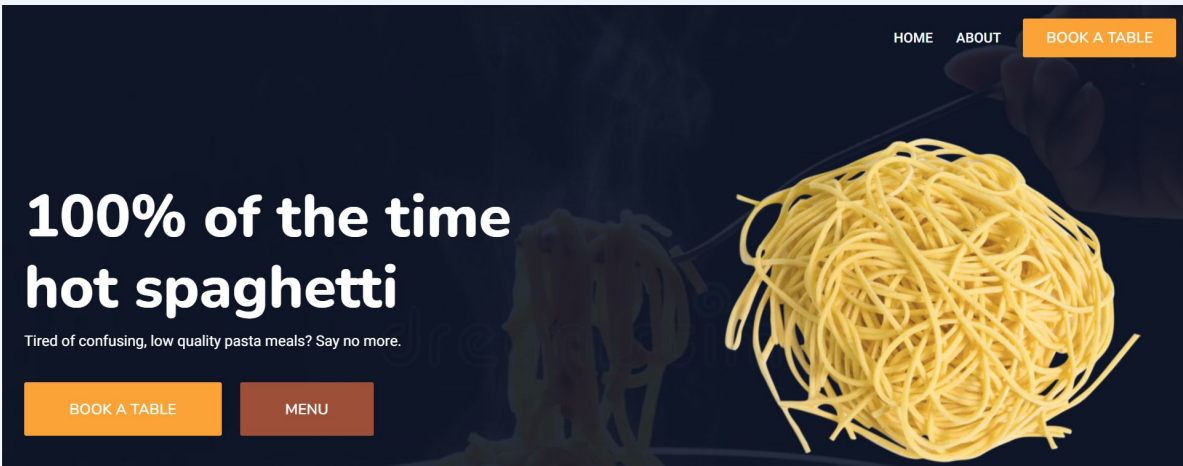
I spin up a staging environment whenever I want to make a change.
...or to remind the production environment how easily it can be replaced.



Playwright - open source browser testing library by Microsoft

- I'm a fan now
- Selectors can be tricky
- Pytest plugin, vscode plugin, parallelised, video recording, debugging, guided selecting etc.
- I use special names to guarantee dice rolls

Let's see it!

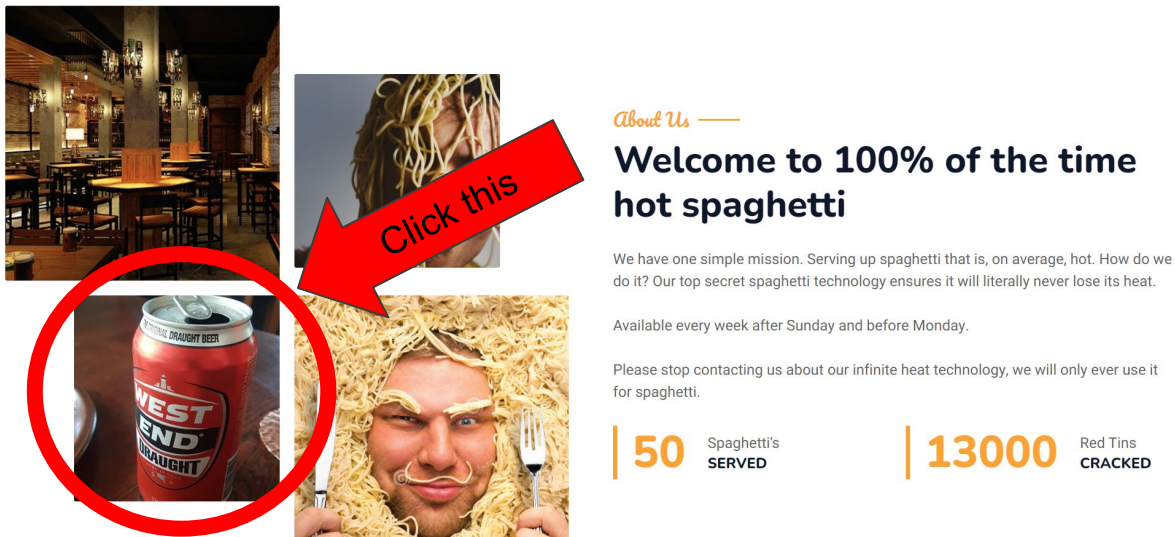


100percentofthetimehotspaghetti.com

github.com/Nick-Sullivan/death-dice

Some fun stats while I prepare the demo

- Costs
 - 50c Route53 (domain)
 - 9c DynamoDB
 - 3c S3
 - + tax
- \$11 before I realised I set DynamoDB to be always on...
- 90 seconds to create infrastructure
- 20 seconds to destroy infrastructure



Cheers! 🍻