



EDA and the THREE DWARVES

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Cover.jpg

Once upon a time...



There was a baker named Snow White. She ran a bakery in the Kubernetes Kingdom. Her specialty? Apple pies.



The three dwarves TEKTON, KNATIVE, and SERVICE MESH- help her keep her BAKERY running

1st page.jpg

TEKTON is a builder dwarf



When Snow White develops a new application for her BAKERY- say, a cupcake decoration application -



TEKTON takes her app code through a software development pipeline.

He builds & tests the application code-



and deploys the containerized cupcake decoration app to Open Shift.

2nd page.jpg

Knative is a server dwarf.



KNATIVE serves up the application containers that TEKTON builds in a serverless fashion in OpenShift.



If SNOW WHITE is no longer using her cupcake decoration app because there are no open cupcake orders-



KNATIVE can stop the cupcake app deployment so it is no longer running.



As another cupcake order comes through,



KNATIVE can deploy the cupcake app again just in time

SERVICE MESH is an eventing dwarf



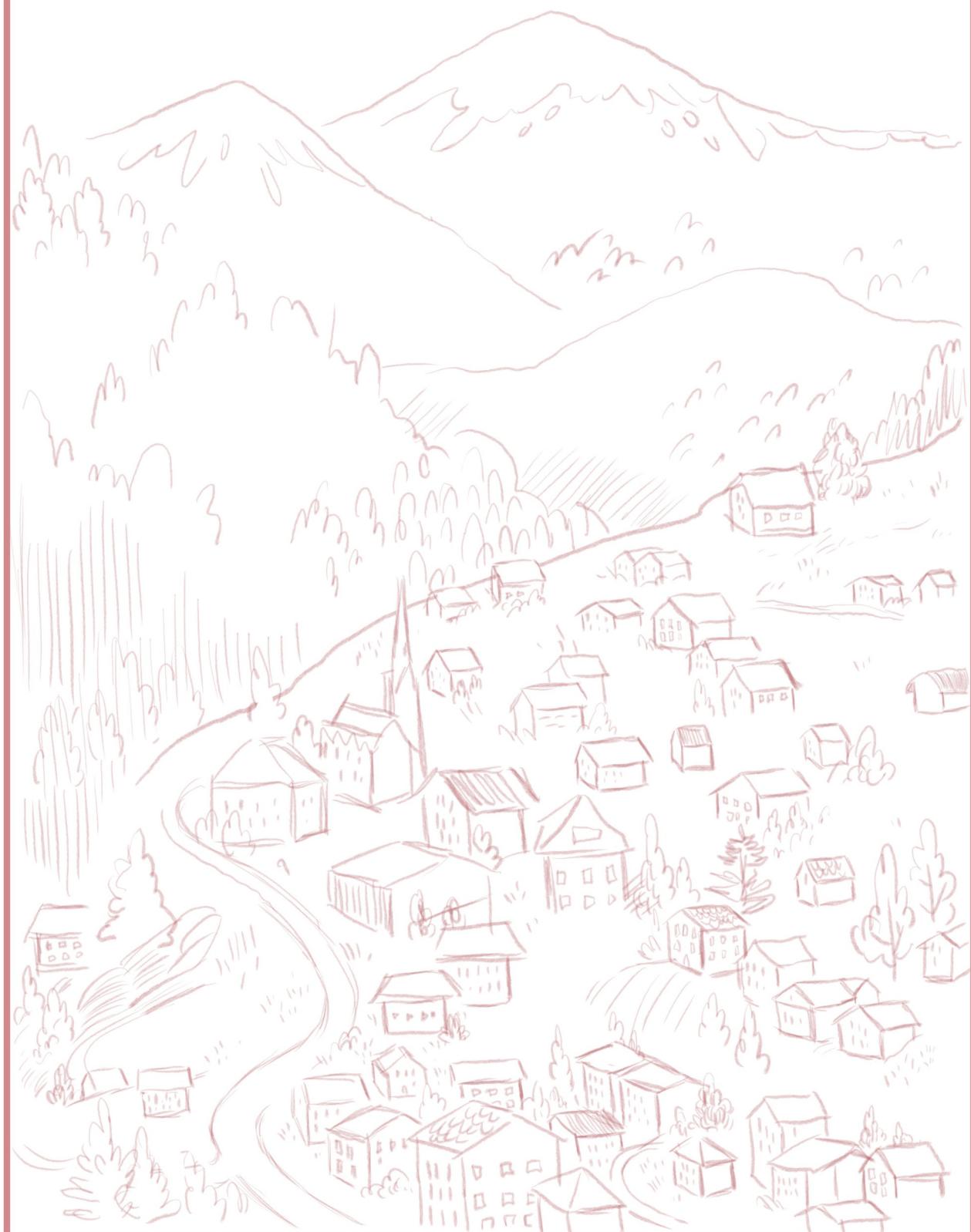
For example, as SNOW WHITE uses up eggs in her bakery, it may produce egg usage events.



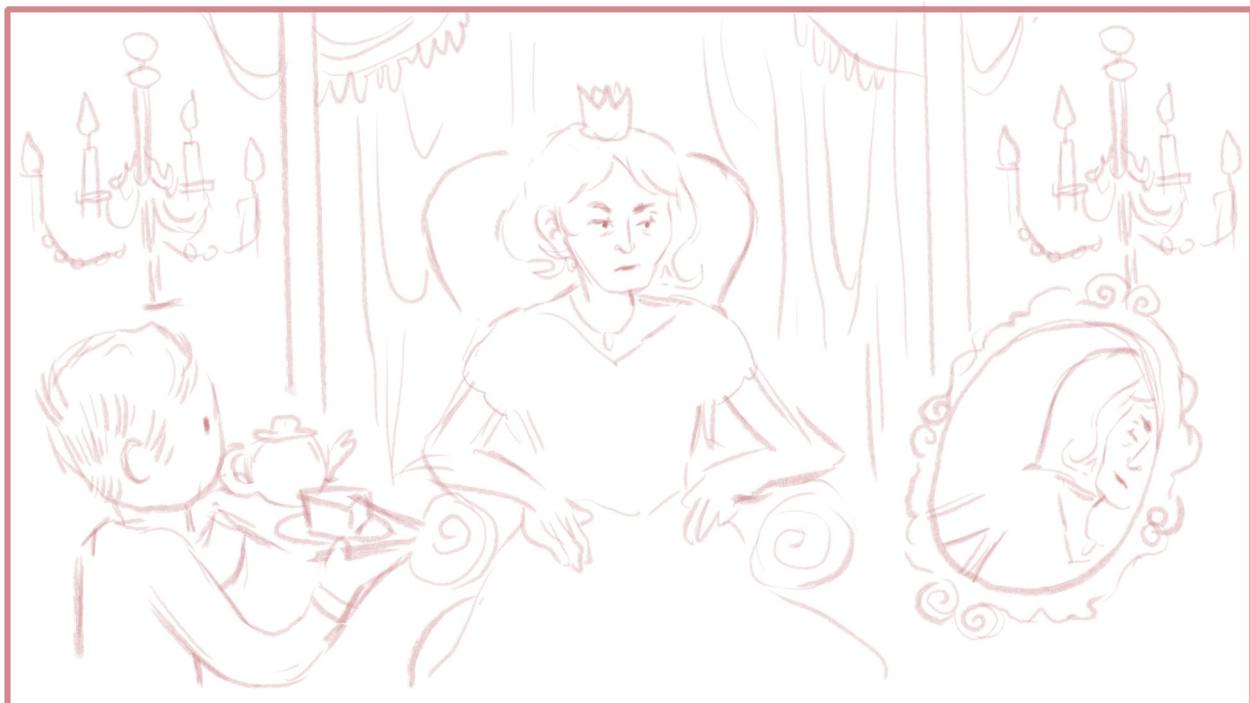
When it consumes enough egg usage events above a certain threshold,
SERVICE MESH may place an order with CHICKEN LITTLE for more eggs



Meanwhile, in the lair of the EVIL QUEEN MALICIOUS,
on a mountain top overlooking the Kubernetes Kingdom...



5th page.jpg

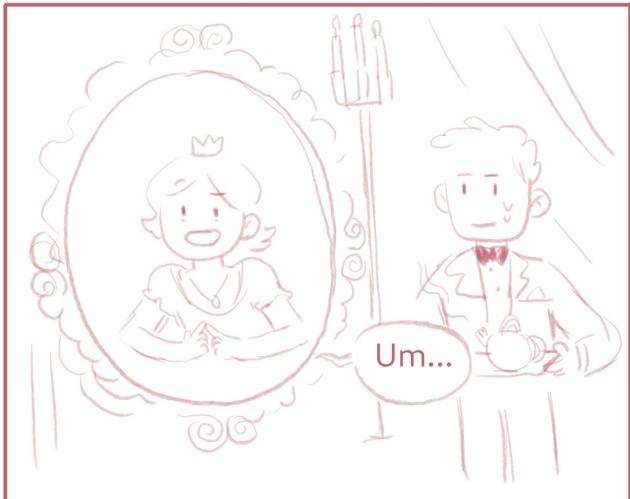
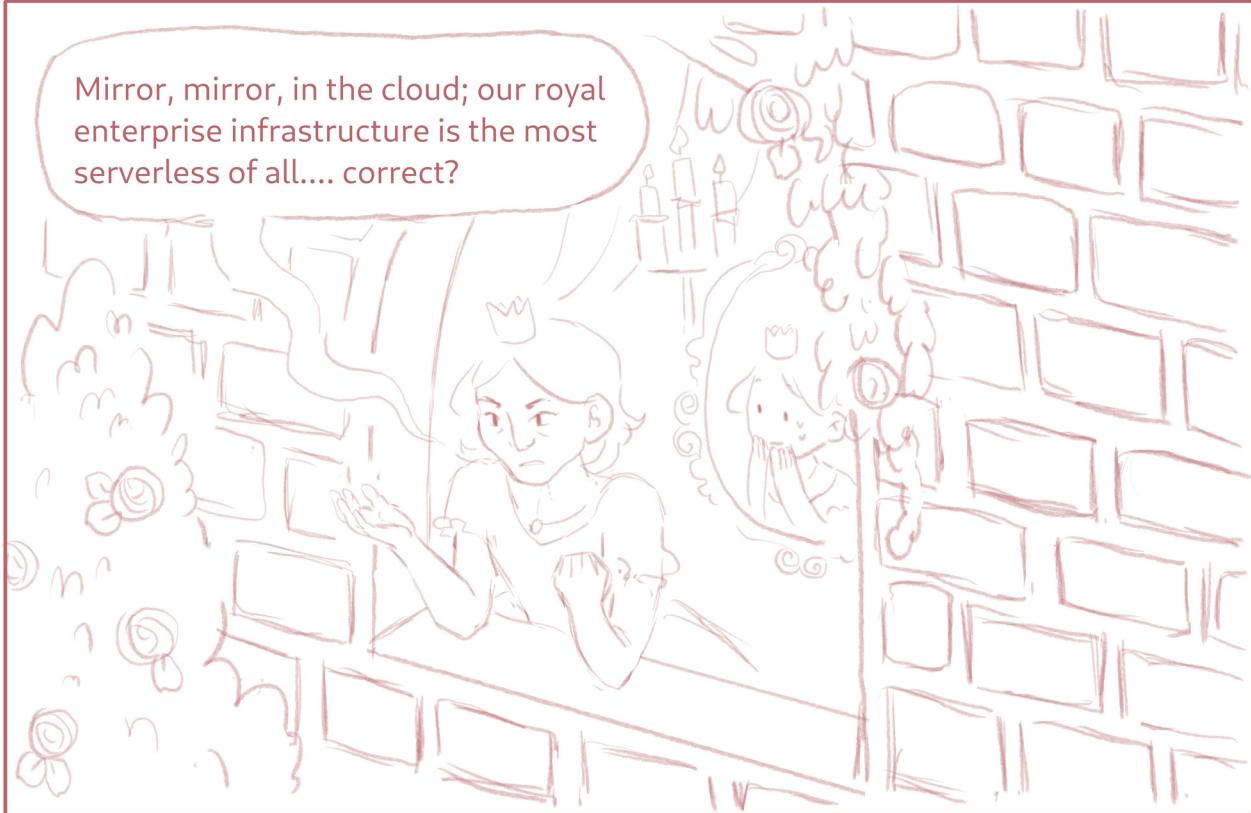


6th page.jpg



Serverless doesn't mean there are no servers, MALICIOUS. It means applications don't run 24/7 - they only run if they are needed and stop when they are not. It results in a more efficient allocation of resources- and the cakes and pies are always fresh

Mirror, mirror, in the cloud; our royal enterprise infrastructure is the most serverless of all.... correct?



Um...



Um.. no- My QUEEN, it is SNOW WHITE who has the most serverless architecture of all...

7th page.jpg

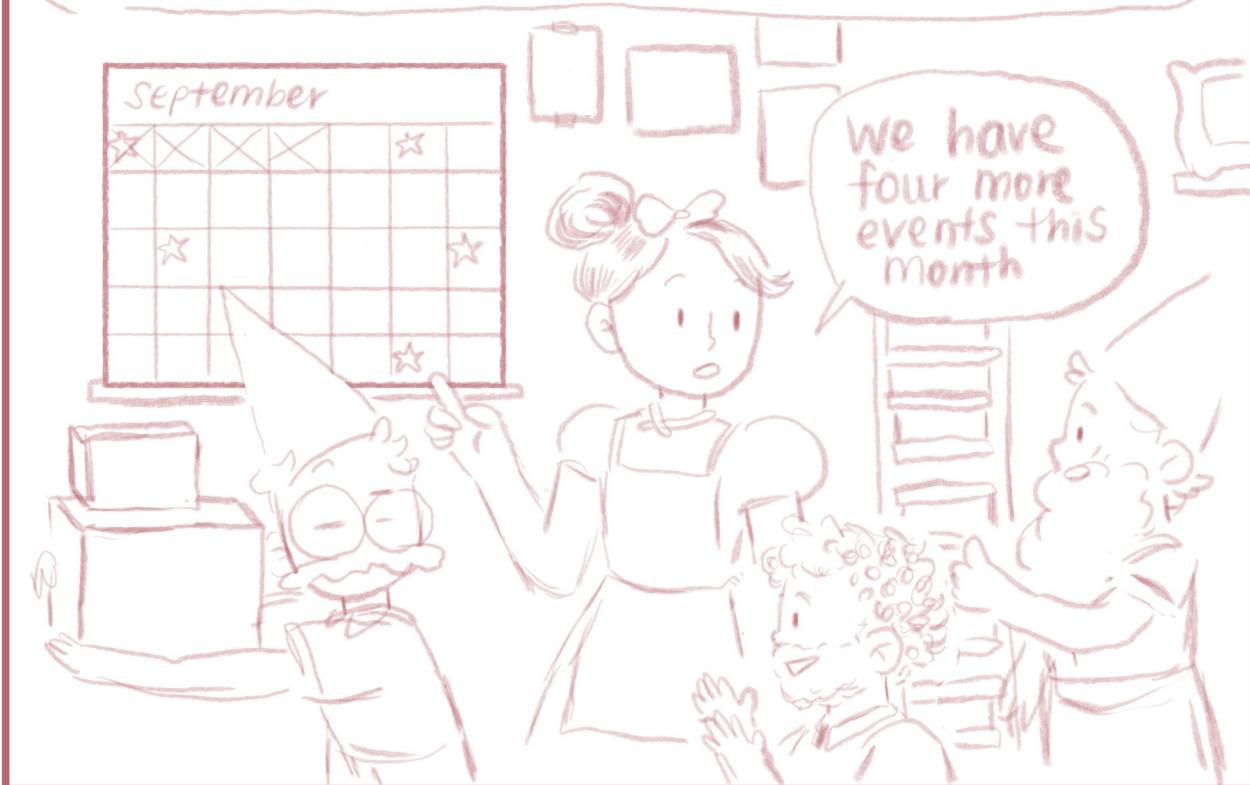


How is this SNOW WHITE able to have
the most serverless architecture of all!?



8th page.jpg

EDA- Event Driven Architecture. It's an application model based around real-world events rather than manual or periodic requests. Her bakery's architecture can scale, stop, and deploy applications based on business-related events.



For example, this past autumn she was able to scale up her applications needed for pumpkin pie production when the demand was high.

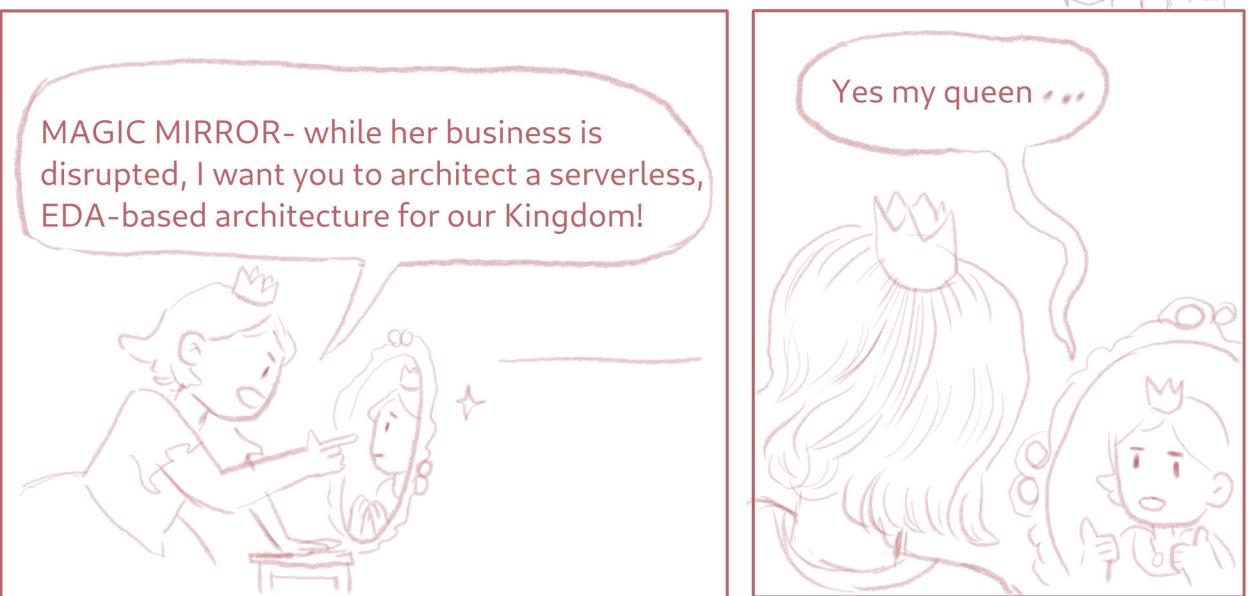
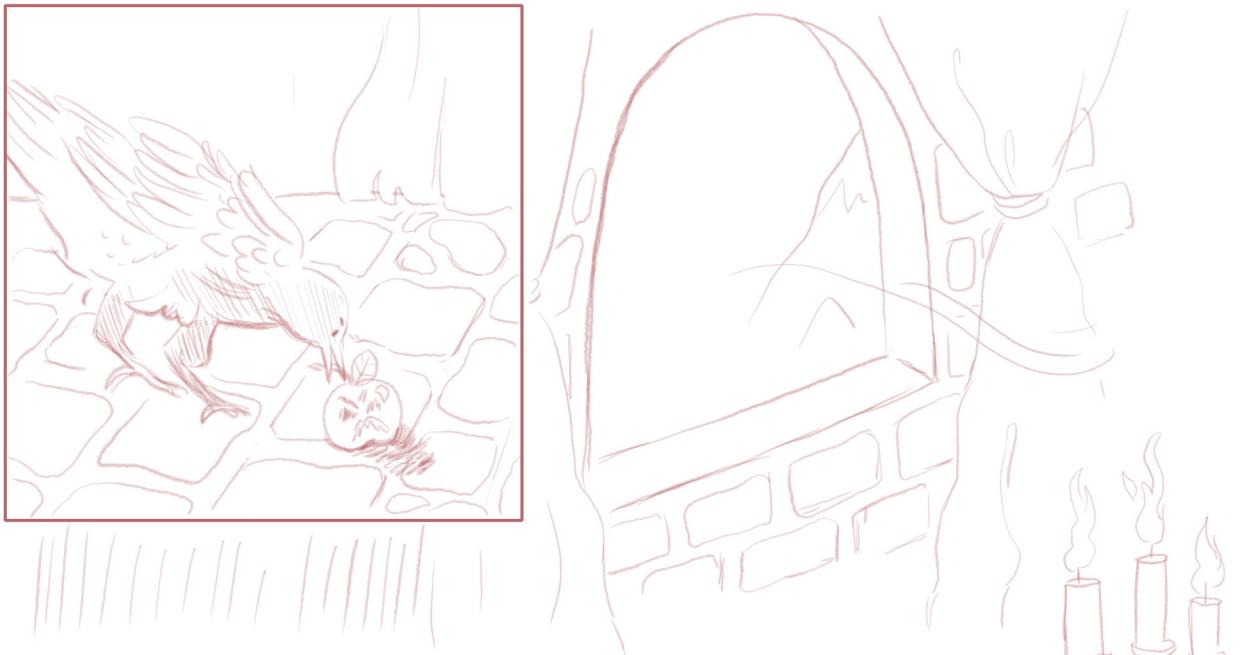


When the winter holidays rolled in after that, her pumpkin pie production was scaled down slightly and her cranberry pie production was scaled up.

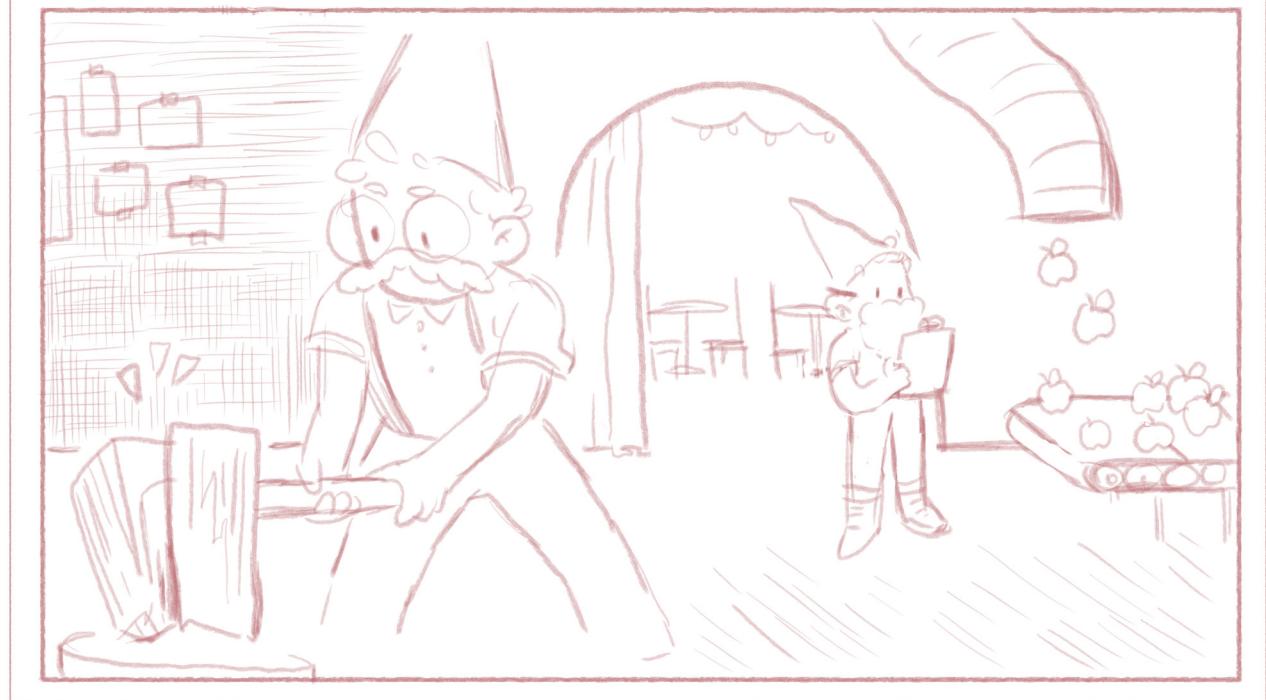




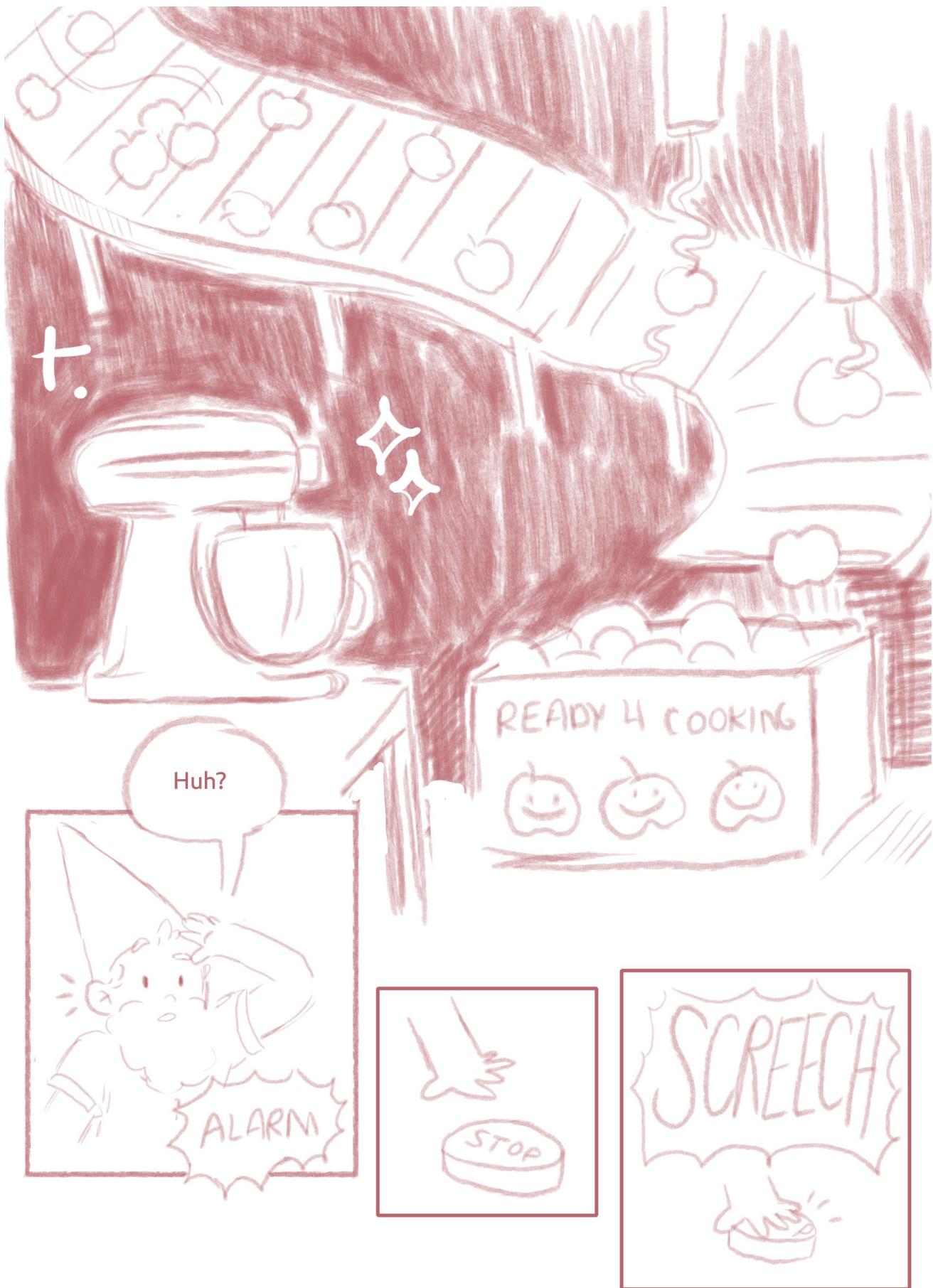
10th page.jpg



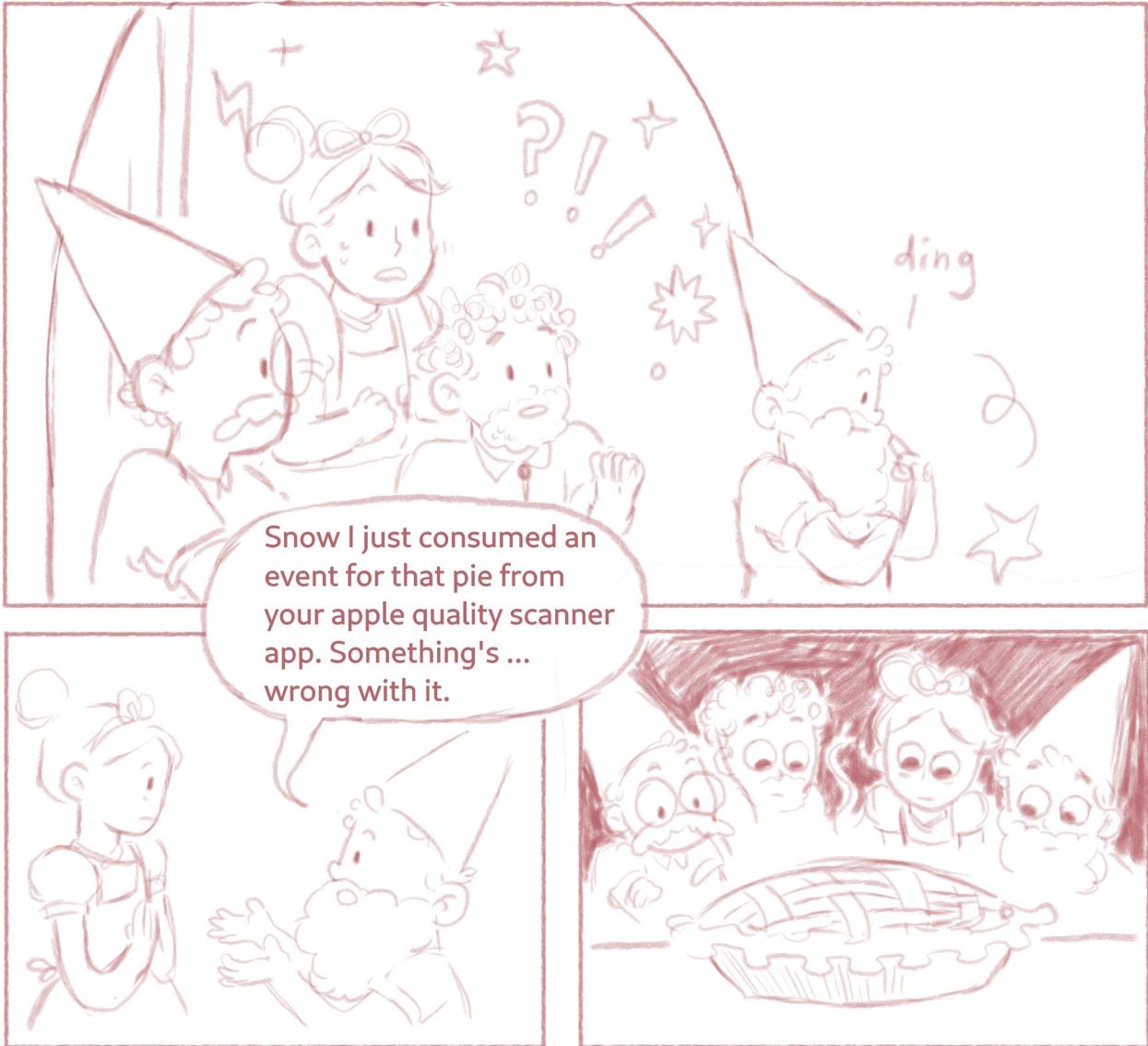
11th page.jpg



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14th page.jpg



Is this... a poisoned apple in our filling??

It is!



15th page.jpg



16th page.jpg

KNATIVE deploys more poison detector apps as a new apple delivery comes down the chute and the load increases.

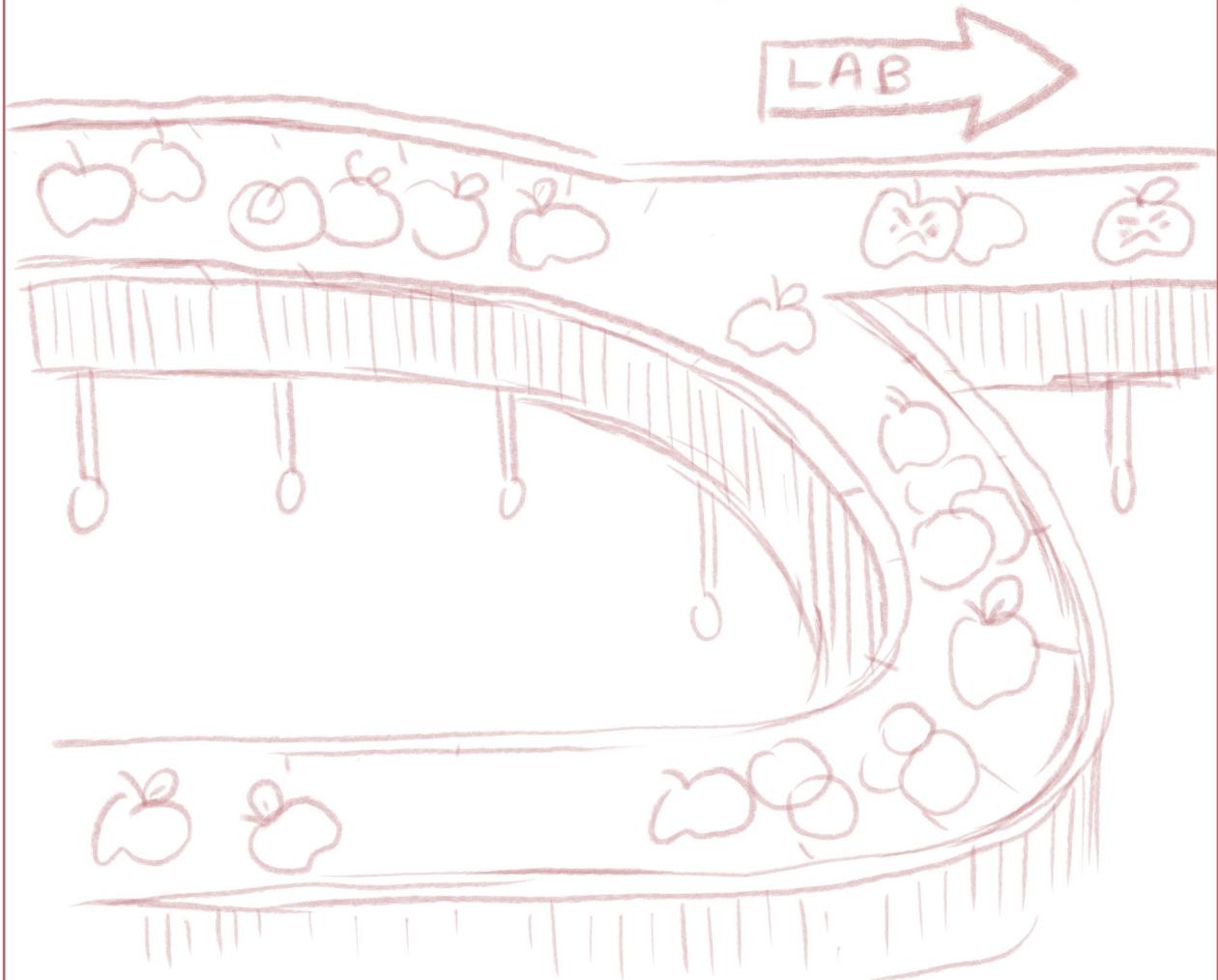


When the delivery finishes, he will stop some of the instances to free up resources for other bakery tasks.



SERVICE MESH listens to the event channel, producing events when the new poison detector goes off, and consuming those events in order to route safe and poisoned apples.

Poisoned apples are routed to a new conveyor belt system where they are bagged, tagged, and sent to the Kingdom's crime lab for analysis.



Safe apples are routed to the peeling and coring conveyor belt system to be baked into pies.

YIPPEE!



18th page.jpg

Meanwhile, at the evil QUEEN's lair...



19th page.jpg

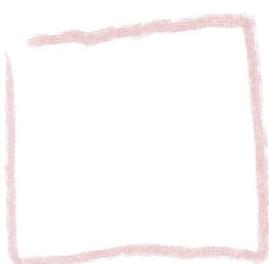
How was she able to keep running, when her apple supply was poisoned???



Your Highness, a serverless, event-driven architecture means that her bakery can flexibly scale to handle events like poisoned apples in their supply. We didn't affect her apple pie output at all.



20th page.jpg



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Knative Storyboard - 30 June 2020