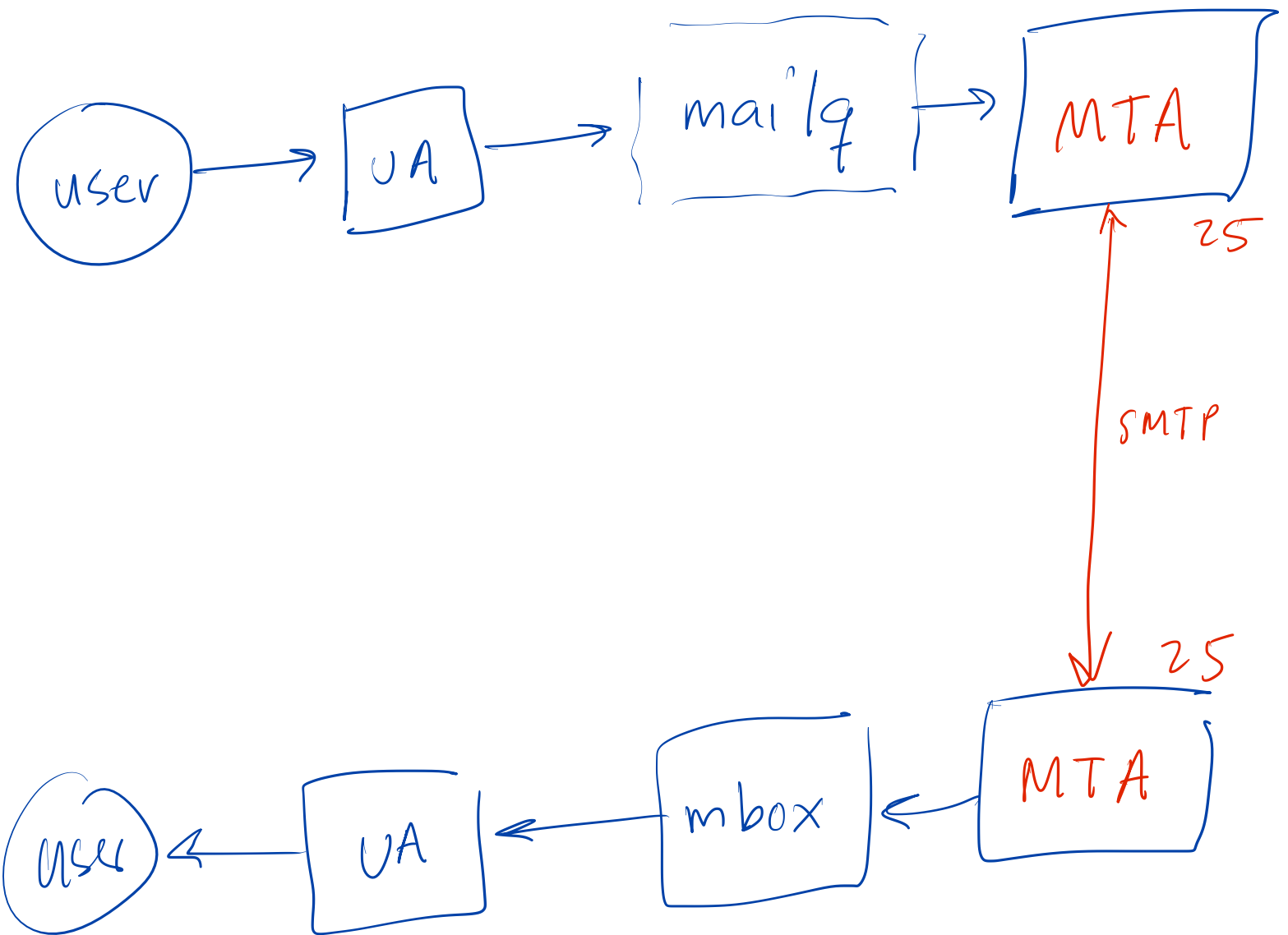


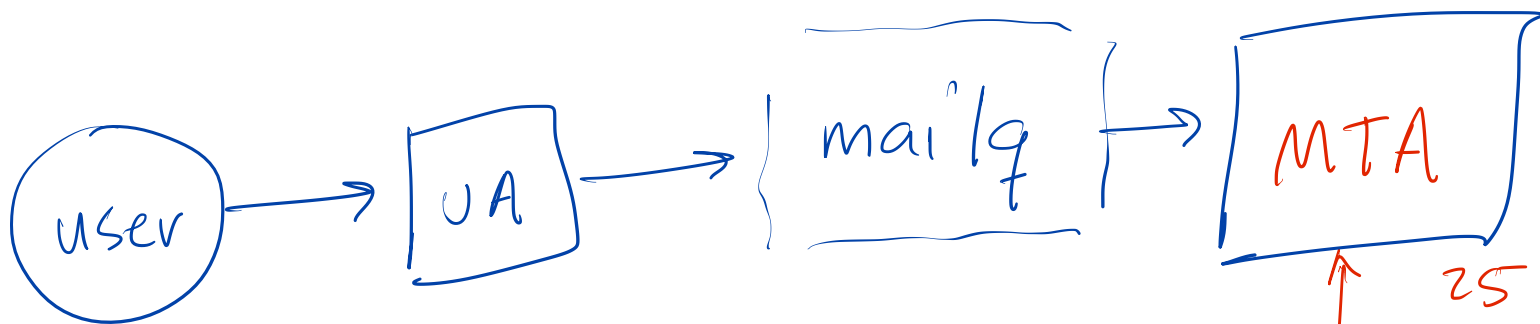
417

-SMTP

Model



Model



SMTP

25

25

MTA

mbox

UA

user

IMAP

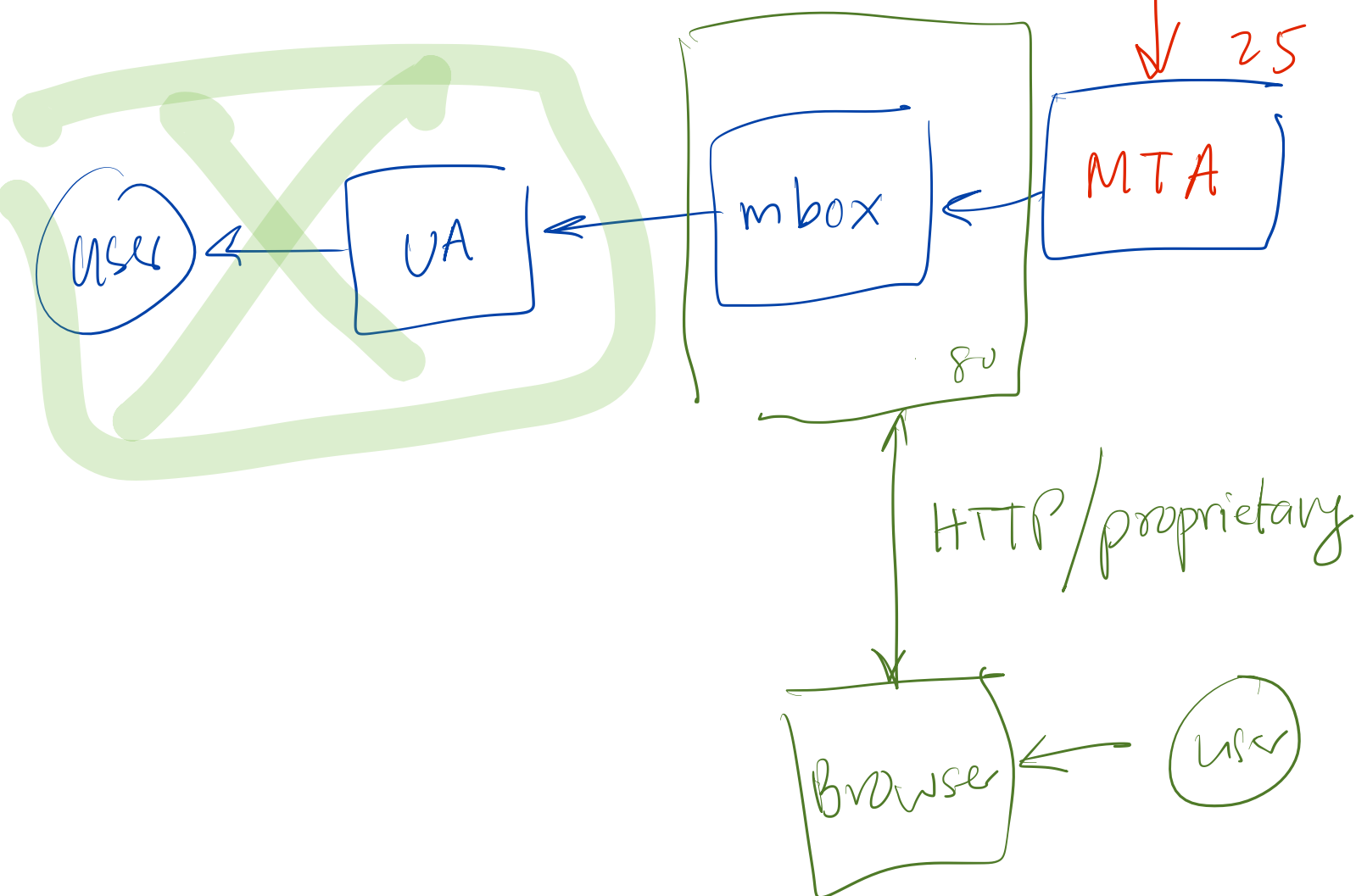
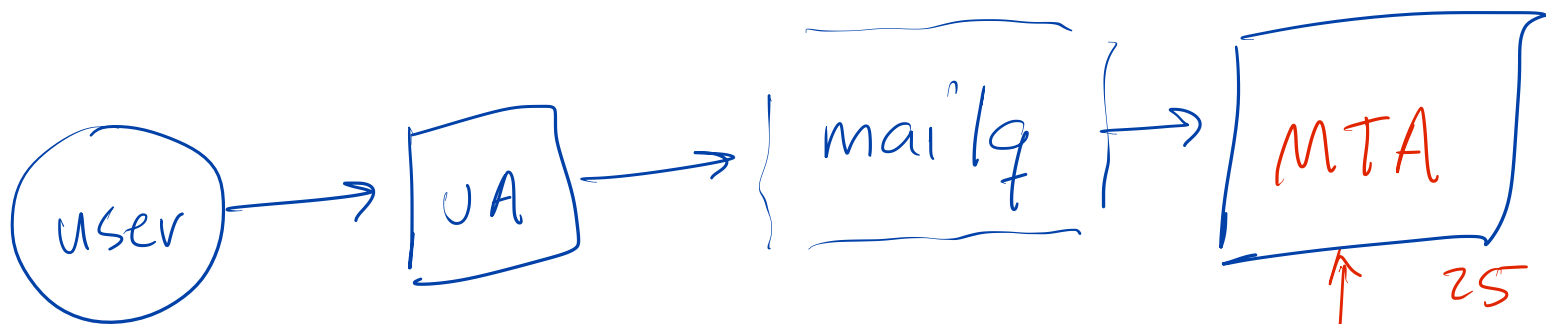
IMAP

IMAP

UA

user

Model



SMTP

TCP port 25
text based

HELO <domain>

MAIL FROM: <sender@—>

RCPT TO : <receiver@—>

DATA

· } Headers
· }
· } Mail body
· }

①

~~Q~~UIT

Data Part

RFC 821

Headers generated by OA

From:

Date:

Subject:

To:

Message-Id: <~~~~~@~~~~>

MX Records.

- used to resolve MTA
name / addr

MX : priority, name

bobby@ cs.wm.edu
MX →

bobby@ mpi-sws.org
MX →

ESMTP

EHL0

Base-64 encoding

MIME

SPF

- Sender Policy Framework

TXT record at same
name/node as MX

- used to identify/exclude
eligible/non-eligible hosts
that can send email
on behalf of a
sender domain



TXT record

- version
- various ways to
list hosts including
 - names
 - addresses
 - prefixes
 - and exclusions

DKIM

RFC 4871

Domain- Key Identified Mail

- TXT RR stores a public key
- outgoing MTA can
sign content of message/
headers.
- Allows body of messages
to be verified

```
[~/Documents]$ dig -t TXT google._domainkey.umd.edu
; <<>> DiG 9.9.7-P3 <<>> -t TXT google._domainkey.umd.edu
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 58679
;; flags: qr rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 0, ADDITIONAL: 1
;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags::; udp: 512
;; QUESTION SECTION:
;google._domainkey.umd.edu.    IN      TXT
;; ANSWER SECTION:
google._domainkey.umd.edu. 14400 IN      TXT      "v=DKIM1; k=rsa;
p=MIIBIjANBgqhkiG9w0BAQEFAAOCAQ8AMIIBCgKCAQEAuc26OdDu/pFkYHUHB5MhtEDSSoR+
+vbKUCPqZz7G17pPwHSLrIPiXjbuprqu
fZ60jOqft2pLJkeyz2fLxqc8Yko/Pam7Jjbd/Xrpre0yq6KbUcJOJeL3gVt7s3v9+0dnVkidVOsMWW"
"eSVxrsWG3OEICyHqBx2/
InVDFvHC86ffTcjbGlaJPGv44hCcGtN5mHCD24IFpb8Jgj6ClstOpwdMwV9eUGtnYte0gu
cd72hqjW/5Wnn5z9CPtMf04rzUtFURquj+W4KUBHXsesOI0m76BJgsi7y9jAhTkQzqo5c9FrgYHAgg6z5RWA/
0QpYDJCRXiYiwmksLcE2TscrLf+nQIDAQAB"
;; Query time: 16 msec
;; SERVER: 10.0.1.1#53(10.0.1.1)
;; WHEN: Tue Nov 08 11:59:40 EST 2022
;; MSG SIZE rcvd: 478
[~/Documents]$
```