Specimen Tracking with Galaxy

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#usegalaxy @galaxyproject

2.7.2014

Motivation

Sequencers are hiding behind every corner.

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Challenge

Possibilities

Approach

Solution

Outcome

Future

Resources

New genomic project @ Penn State w samples from 100s of families.

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Wish: 'Just start sequencer and see the data in Galaxy'

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Heavyweight

Turn Galaxy into customer<->provider sequencing management platform.

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Galaxy tried talking to sequencers in the past.
(see Greg's `demo_sequencer` dir in Galaxy or http://screencast.g2.bx.psu.edu/pacBio-demo/)

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Derived projects operational.
(Brad Chapman's work , TRON LIMS)

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Let people extend.

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Smartphones instead of barcode scanners.

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Scripts instead of integration.

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Less instead of more.

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Start small and listen to users. Change known paths slowly. Don't try to solve too much.

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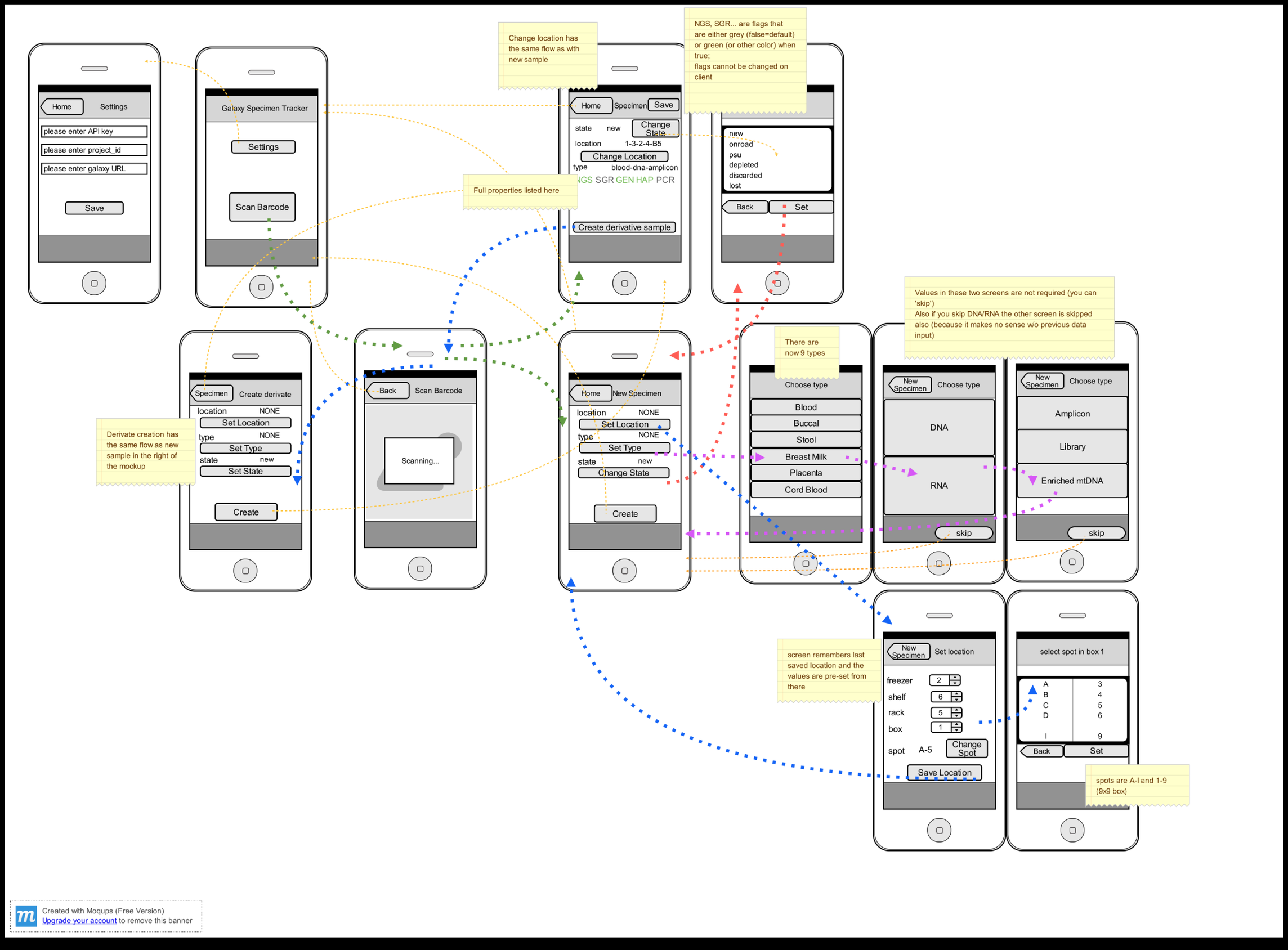

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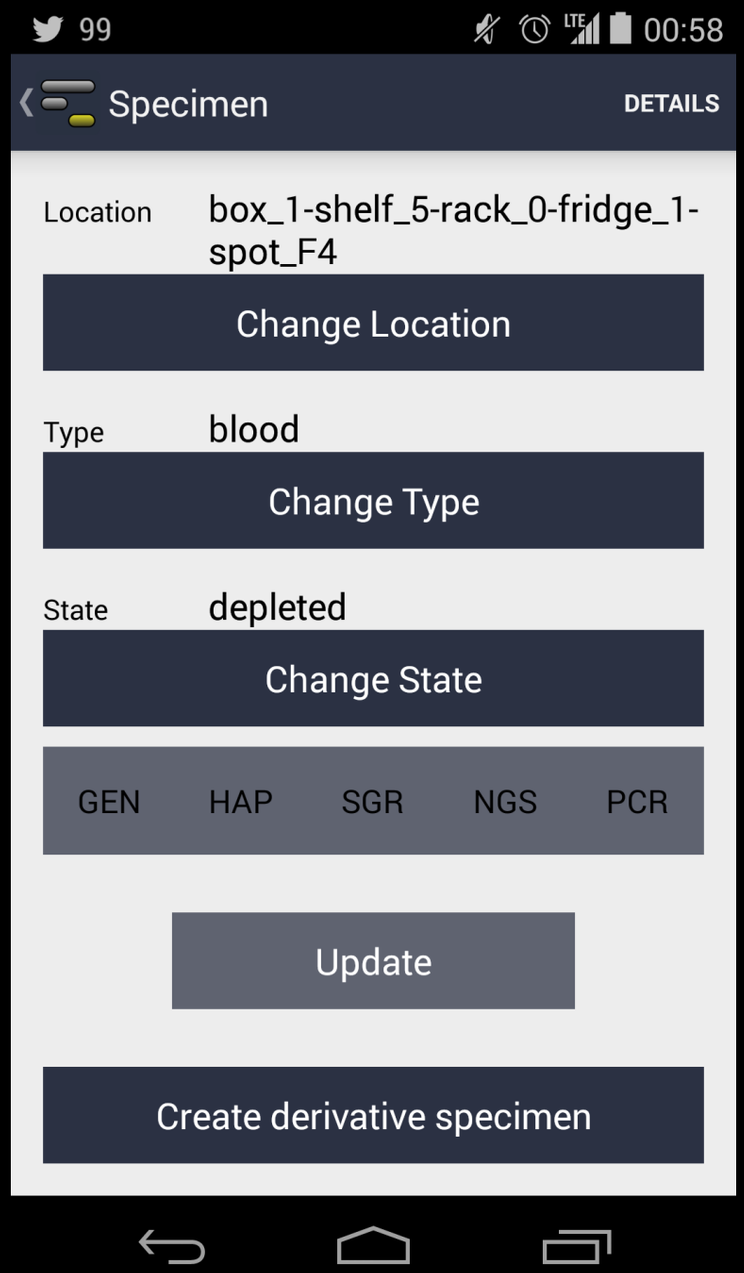
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Specimen
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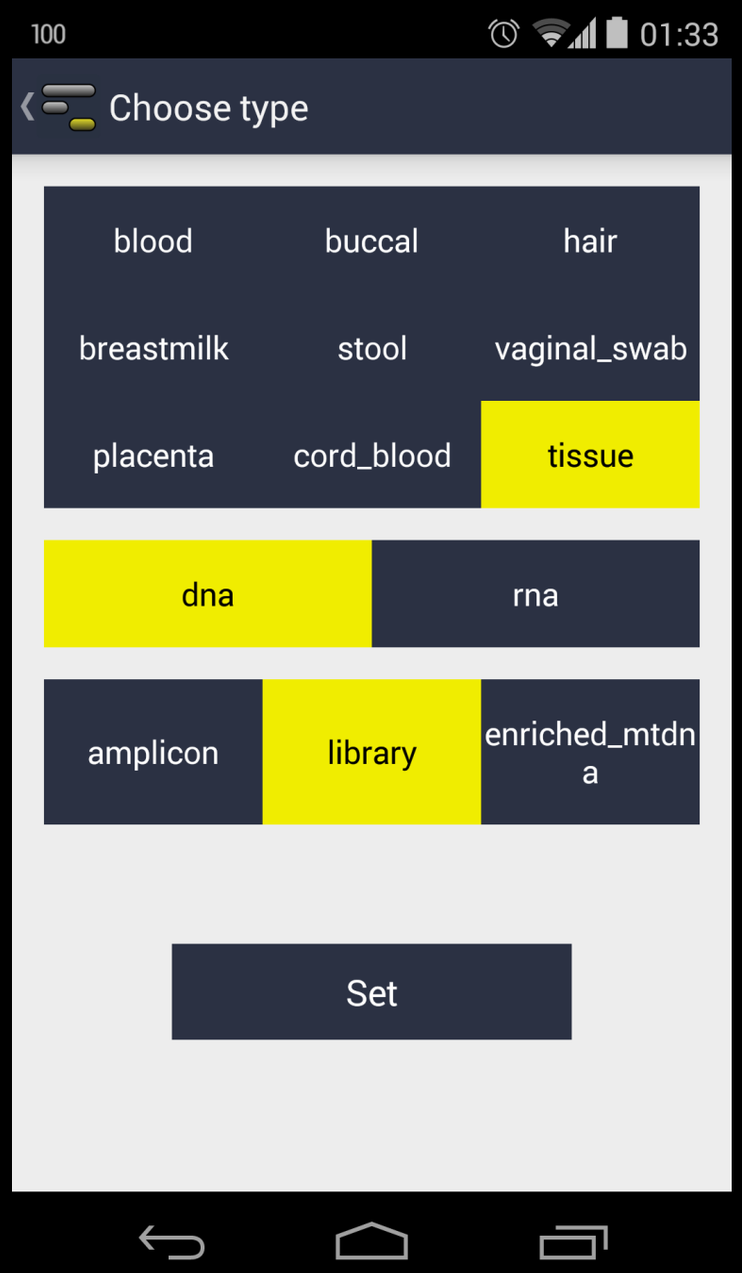
Type
blood
Change Type
State
depleted
Change State
GEN
HAP
SGR
NGS
PCR
Update
Create derivative specimen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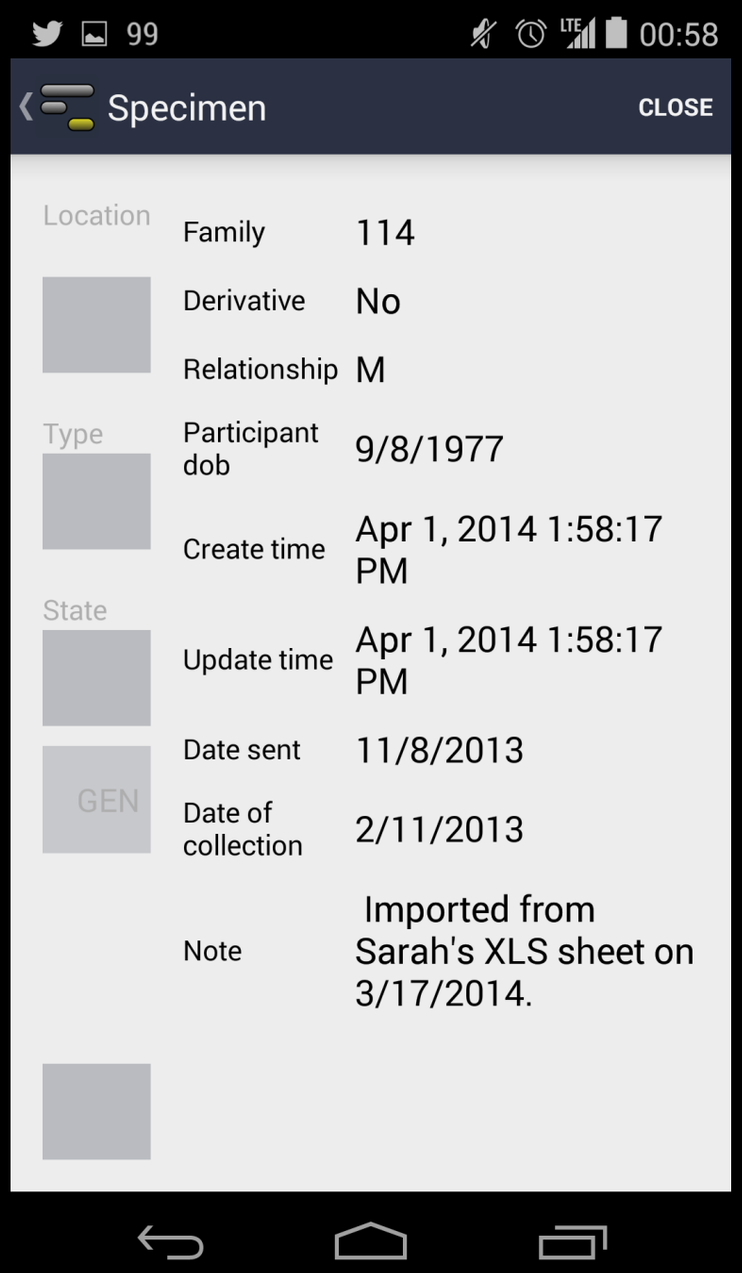
placenta
cord_blood
tissue
dna
rna
amplicon
library
enriched_mtdna
Set


99
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Specimen
CLOSE
Location
Type
State
GEN
Family
114
Derivative
No
Relationship
M
Participant dob
9/8/1977
Create time
Apr 1, 2014 1:58:17 PM
Update time
Apr 1, 2014 1:58:17 PM
Date sent
11/8/2013
Date of collection
2/11/2013
Note
Imported from Sarah's XLS sheet on 3/17/2014.

Hide Filter | Clear Filter

123 | barcode | new, onroad, psu, depleted | blood, buccal, hair, breastmilk | dna, rna | library, amplicon, enriched_mtdna

fam	rel	sex	state	type	location	derivate	note
123	C1	M	psu	blood	fridge_1-shelf_5-rack_0-box_2-spot_A2	no	Imported from Sarah's XLS sheet on 3/17/2014.
123	M		depleted	blood	fridge_1-shelf_5-rack_0-box_2-spot_B2	no	Imported from Sarah's XLS sheet on 3/17/2014.
123	D		psu	blood	fridge_1-shelf_5-rack_0-box_2-spot_C2	no	Imported from Sarah's XLS sheet on 3/17/2014.
123	C1	M	psu	blood-dna	fridge_2-shelf_2-rack_0-box_3-spot_B6	yes	Imported from Sarah's XLS sheet on 4/1/2014.
123	D		psu	blood-dna	fridge_2-shelf_2-rack_0-box_2-spot_H8	yes	Imported from Sarah's XLS sheet on 4/1/2014.
123	M		psu	blood-dna	fridge_2-shelf_2-rack_0-box_3-spot_B7	yes	Imported from Sarah's XLS sheet on 4/1/2014.
123	D		psu	blood-dna	fridge_2-shelf_2-rack_0-box_8-spot_H1	yes	Imported from Sarah's XLS sheet on 4/1/2014.
123	D		psu	blood-dna	fridge_2-shelf_2-rack_0-box_3-spot_B8	yes	Imported from Sarah's XLS sheet on 4/1/2014.
123	D		psu	blood-dna	fridge_2-shelf_2-rack_0-box_9-spot_B1	yes	Imported from Sarah's XLS sheet on 4/1/2014.
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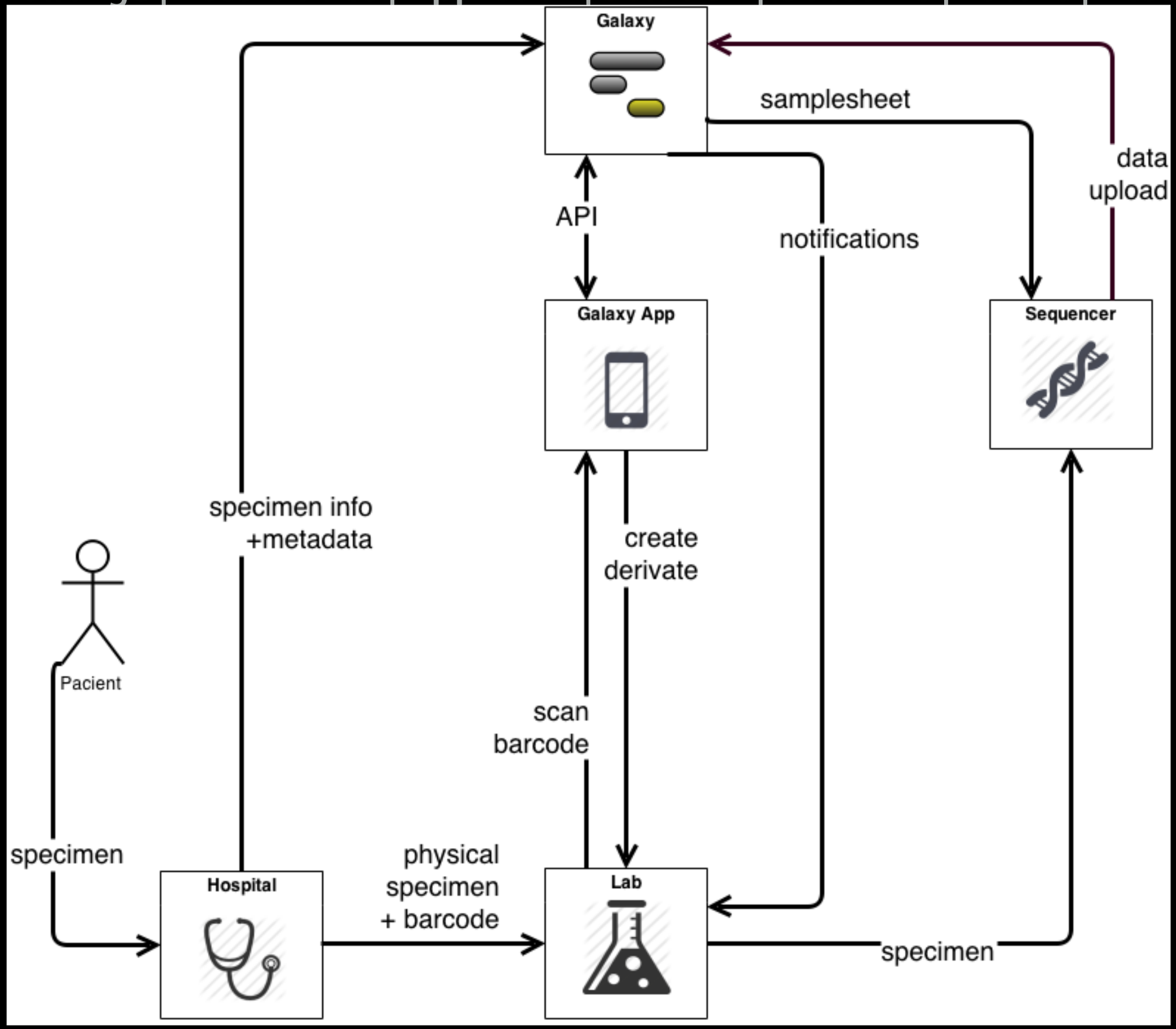
123	C1	M	psu	blood-dna	fridge_2-shelf_2-rack_0-box_8-spot_G9	yes	Imported from Sarah's XLS sheet on 4/1/2014.
123	C1	M	psu	blood-dna	fridge_2-shelf_2-rack_0-box_2-spot_H6	yes	Imported from Sarah's XLS sheet on 4/1/2014.
123	C1	M	psu	stool		no	frozen Received at HMC: 3/24/2014 Imported from Sarah's XLS sheet on 6/9/2014.
123	C1	M	psu	buccal		no	Facility Buccal Barcode: KMCO0038 Imported from Sarah's XLS sheet on 6/9/2014.
123	M		psu	buccal		no	Facility Buccal Barcode: KMCO0039 Imported from Sarah's XLS sheet on 6/9/2014.
123	M		psu	blood-dna	fridge_2-shelf_2-rack_0-box_2-spot_H7	yes	Imported from Sarah's XLS sheet on 4/1/2014.
123	C1	M	psu	buccal-dna	fridge_2-shelf_5-rack_0-box_14-spot_D5	yes	Facility Buccal Barcode KMCO0038 Imported from Sarah's XLS sheet on 6/17/2014.
123	M		psu	buccal-dna	fridge_2-shelf_5-rack_0-box_14-spot_D6	yes	Facility Buccal Barcode KMCO0039 Imported from Sarah's XLS sheet on 6/17/2014.


Galaxy
samplesheet
data
upload
API
notifications
Galaxy App
Sequencer
specimen info
+metadata
create
derivate
Pacient
scan
barcode
specimen
physical
specimen
+ barcode
Hospital
Lab
specimen

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Network neutrality

Consistency?

Reliability

Convenience

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Connecting to and reviving the 'old' sample tracking?

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Dataset collections integration?

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Extending the smartphone apps with more general features for Galaxy public?

Trello card
bit.ly/specimen-tracking-trello

Sources of modified Galaxy, Android & iOS apps
https://bitbucket.org/martenson

Sample Tracking API documentation
docs.galaxysampletracking.apiary.io

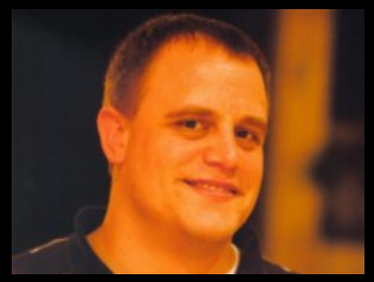
Mobile app mockups
https://moqups.com/martenson/ehuJNy2b/

Thank you, Galaxy Team

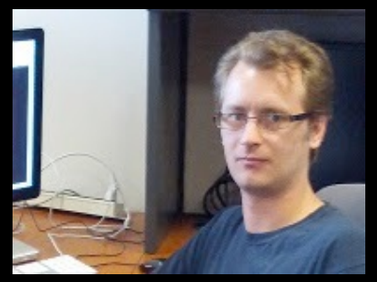
@galaxyproject #usegalaxy

Enis Afgan

Dannon Baker



Dan Blankenberg



Dave Bouvier

Martin Čech

John Chilton

Dave Clements

Nate Coraor

Carl Eberhard

You?

Jeremy Goecks

Sam Guerler

Jen Jackson

Greg Von Kuster

Ross Lazarus

Nick Stoler

Anton Nekrutenko

James Taylor

http://bit.ly/specimen-tracking-trello