GEORGIA AQUARIUM
DIVE LOG

TABLET APPLICATION DESIGN

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INTRODUCTION:

THE STORY BEHIND THE PROJECT

THE GEORGIA AQUARIUM

- 8 million gallons of fresh and salt water
- 60 animal habitats

DIVE OPERATIONS TEAM

- 120 volunteers and staff
- Maintenance, animal care, research, training
- Dive Immersion Programs
- Utilize dive logs to track safety of divers and dive details

THE TASK:

TO CREATE AN **INTUITIVE** & **CONVENIENT** DIVE-LOGGING **MOBILE** TABLET APPLICATION

INTRODUCTION

THE USER: A DIVE TENDER

Dive Tenders:

- Serve as standby divers during emergencies
- Record key dive information (ie. location, designated person in charge)
- Record diver information (i.e. objective, time in and out, tank PSI numbers)

INTRODUCTION

THE USER: A DIVE TENDER

TENDER RECORDS DIVE INFORMATION

DIVE TYPE

LOCATION & CONDITIONS

DPIC

TENDER RECORDS DIVER INFORMATION

TIME IN

EQUIPMENT SPECS

OBJECTIVE

INVENTORY

TENDER BRIEFS DIVERS

DIVERS ENTER & EXIT WATER

TENDER RECORDS DIVERS' ENDING INFORMATION

TIME OUT

EQUIPMENT SPECS


DATE 2/16/2017
LOCATION CW7 max depth: 25 ft
DPIC AMY ARNOLD
STANDBY ANDREW AGUSTIN
UMB # 23
TANK # 4
START PSI 1500
END PSI
SCUBA
SURFACE SUPPLIED
CCR
SNORKEL
ALL
DONE
DIVE GEAR
FINS - 2 +
GLOVES (7) - 1 +
MASK - 0 +
WEIGHTS - 0 +
WEIGHT BELT - 0 +
EQUIPMENT
HANDLE BRUSHES - 0 +
DOODLE BUG SCRUB PAD - 0 +
VACUUM COMPONENTS - 0 +
VACUUM HOSES - 0 +
ARMADA COMPONENTS
Stacey Levine
Time In 9:56 am
Time Out 11:55 am
TANK 1
TANK 2
NUMBER
START PSI
END PSI
DIVE OBJECTIVE
EGS
TANK 1
REFERENCE DOCUMENTS
GEORGIA AQUARIUM DIVE LOG
AQUARIUM
FIELD DIVE
GUEST DIVE
LOCATION CW7
DPIC AMY ARNOLD
TENDER ANDREW AGUSTIN
choose me
STANDBY EQUIPMENT
SCUBA
SURFACE SUPPLIED
UMBILICAL #23
EGS TANK # 4
START PSI 1500
continue

RESEARCH:

“WHAT IS WATER?”

“What is the typical diver’s day?”

“How do dive tanks and location impact dives?”

“What kind of information needs to be tracked?”

“What kinds of dives are there?”

RESEARCH:

ASKING THE PEOPLE IN THE WATER

Asking Stakeholders:

- What is the critical information that needs to be recorded?
- What kinds of dive equipment are used?
- What's the current process?

RESEARCH:

THE CURRENT STATE

Georgia Aquarium Inc.

House Dive Log Anything with a starting pressure must have an ending pressure recorded

Dive Location _____ Site _____ Date _____ Dive # _____

Dive Supervisor / DPIC _____ Tender _____ Stand-by _____

#	DIVER NAME	COMP #	TIME IN	TIME OUT	TOTAL TIME	MAX DEPTH	EGS (pres. in/out)	TANK 1 (pres. in/	TANK 2 (pres. in/	TANK 3 (pres. in/out)	OBJECTIVES
1							#:	#:	#:	#:	Maint Train Feed Show Sci Other
2							#:	#:	#:	#:	Maint Train Feed Show Sci Other
3							#:	#:	#:	#:	Maint Train Feed Show Sci Other
4							#:	#:	#:	#:	Maint Train Feed Show Sci Other
5							#:	#:	#:	#:	Maint Train Feed Show Sci Other
	Standby										<--- Don't forget to record standby information

Dive Location _____ Site _____ Date _____ Dive # _____

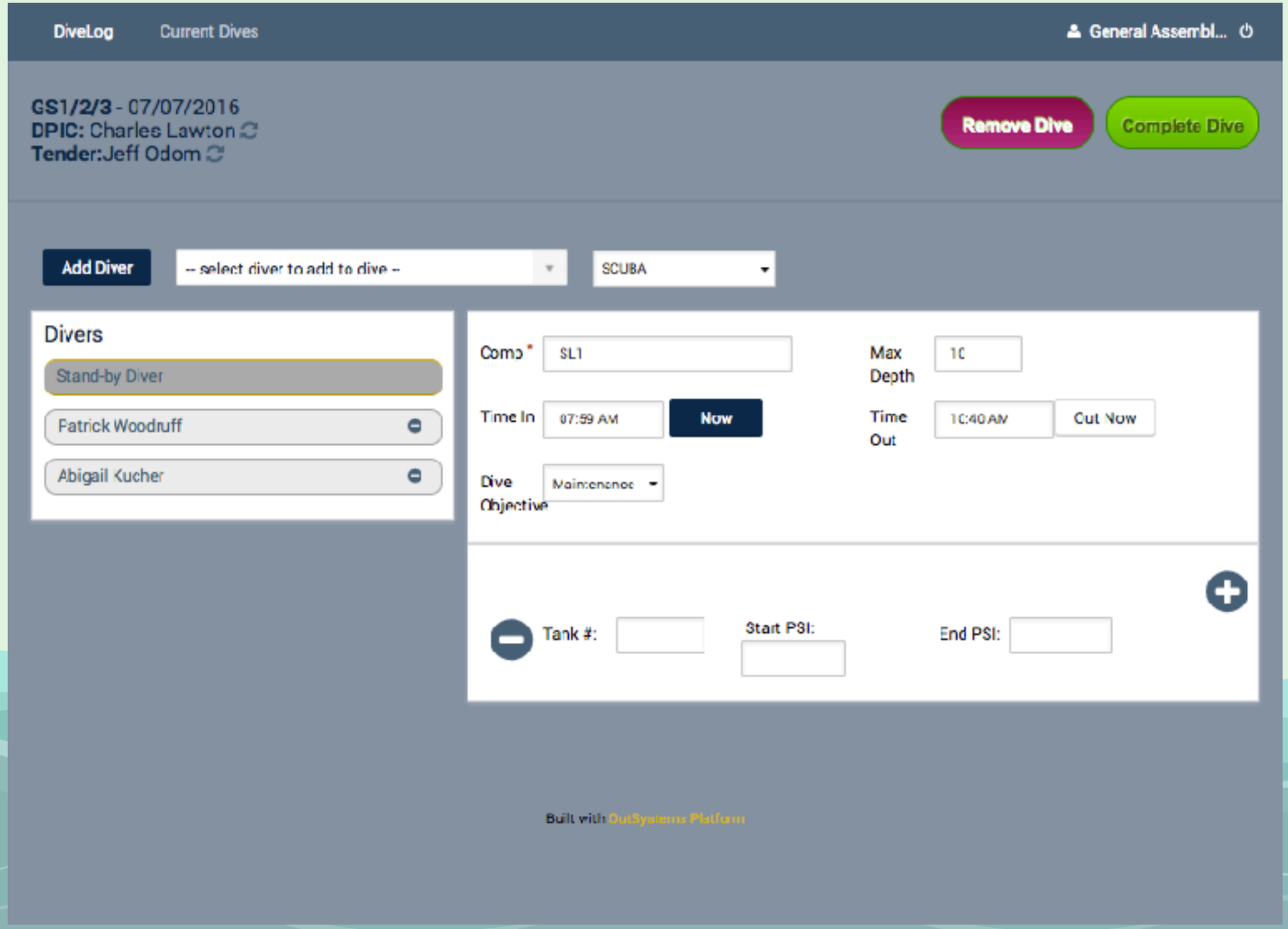
Dive Supervisor / DPIC _____ Tender _____ Stand-by _____

#	DIVER NAME	COMP #	TIME IN	TIME OUT	TOTAL TIME	MAX DEPTH	EGS (pres. in/out)	TANK 1 (pres. in/	TANK 2 (pres. in/	TANK 3 (pres. in/out)	OBJECTIVES
1							#:	#:	#:	#:	Maint Train Feed Show Sci Other
2							#:	#:	#:	#:	Maint Train Feed Show Sci Other
3							#:	#:	#:	#:	Maint Train Feed Show Sci Other
4							#:	#:	#:	#:	Maint Train Feed Show Sci Other
5							#:	#:	#:	#:	Maint Train Feed Show Sci Other
	Standby										<--- Don't forget to record standby information

1

RESEARCH:

THE CURRENT STATE



RESEARCH:

ASKING THE PEOPLE IN THE WATER

SO MANY DIVE TYPES!

- Surface Supply/CCR/ Scuba
- Aquarium/Field/Guest
- Maintenance/Training/ Feeding/Scientific/Safety

RESEARCH:

UNDERSTANDING DIVE TYPES

Surface Supplied

Scuba

Closed-Circuit Rebreather

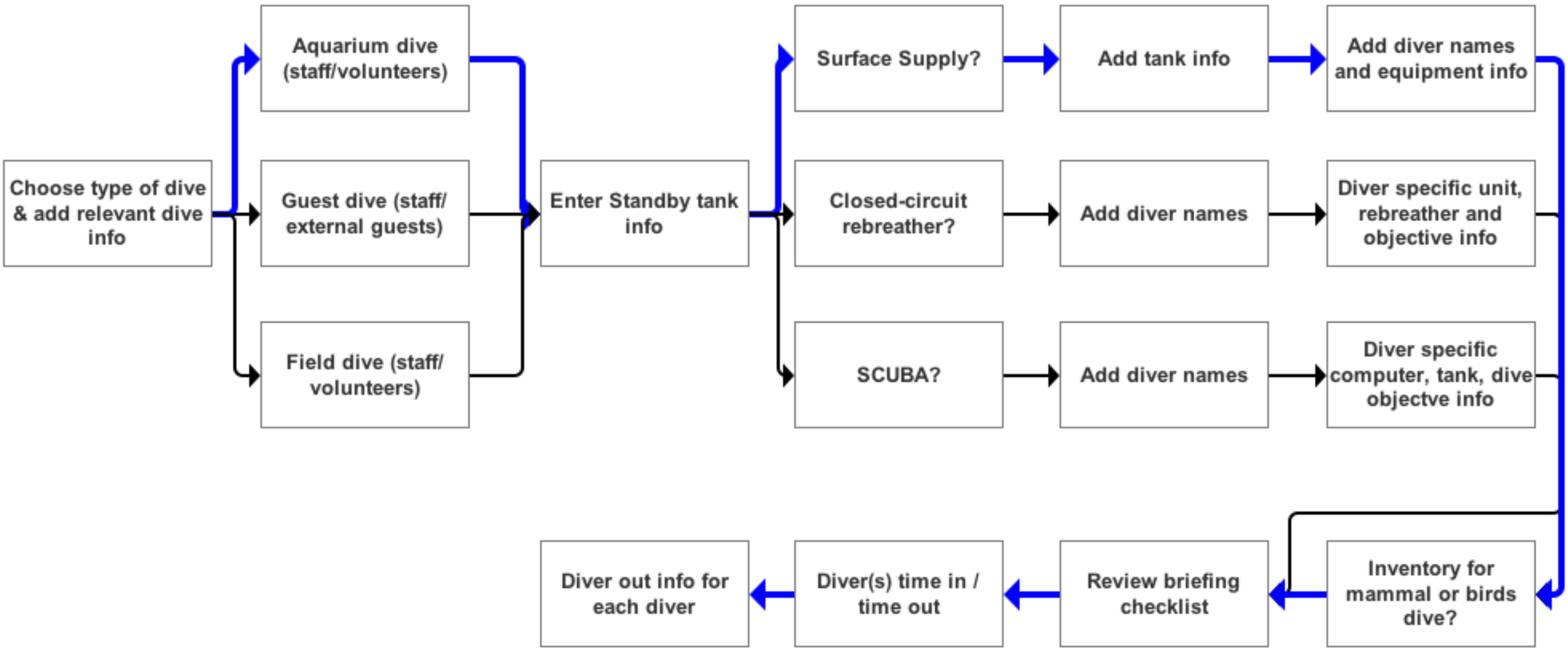
RESEARCH:

KEY INSIGHTS

- **Flexibility** is key
- **Tenders have a rhythm** to how they document a dive
- **Information architecture is king** (a lot of information to be captured, but limited screen space)

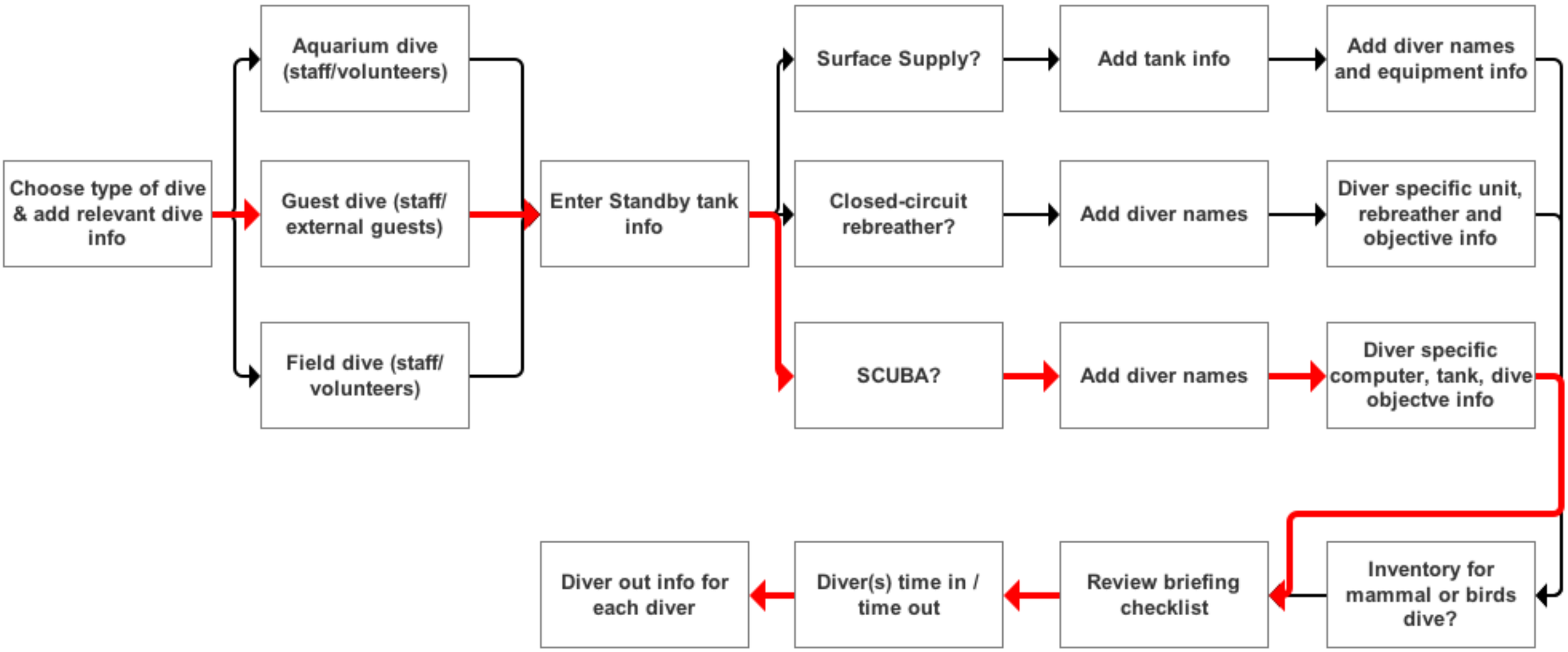
BRAINSTORMING

DIVE SCENARIOS: The Aquarium Dive



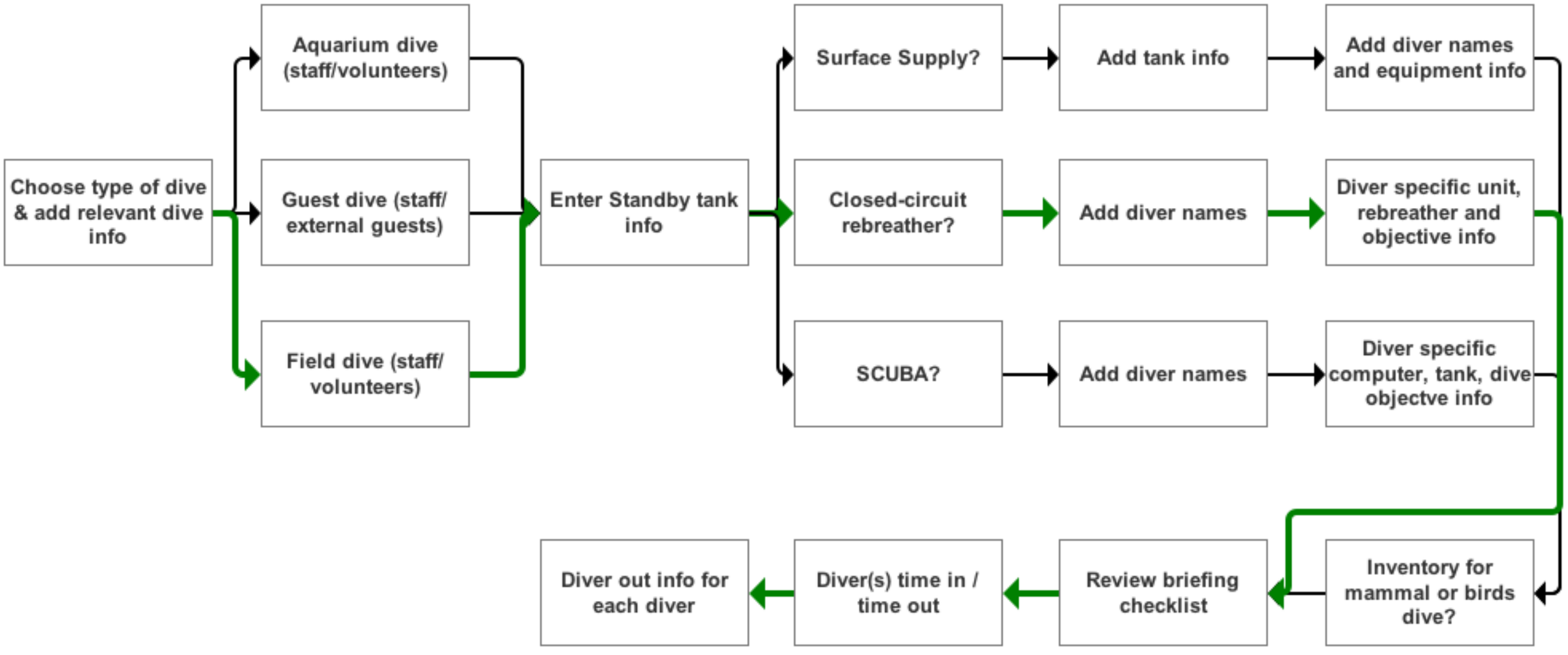
BRAINSTORMING

DIVE SCENARIOS: The Guest Dive



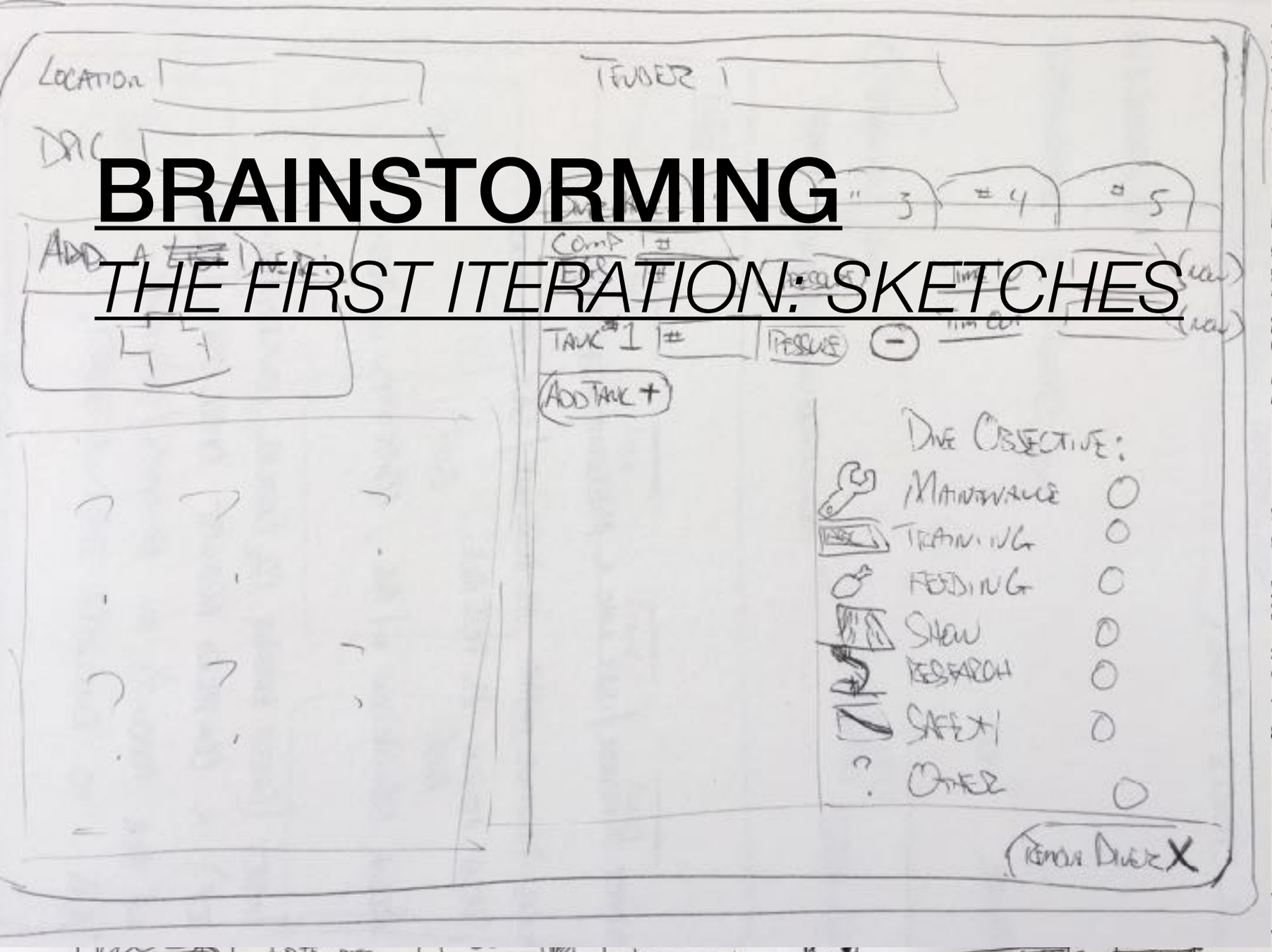
BRAINSTORMING

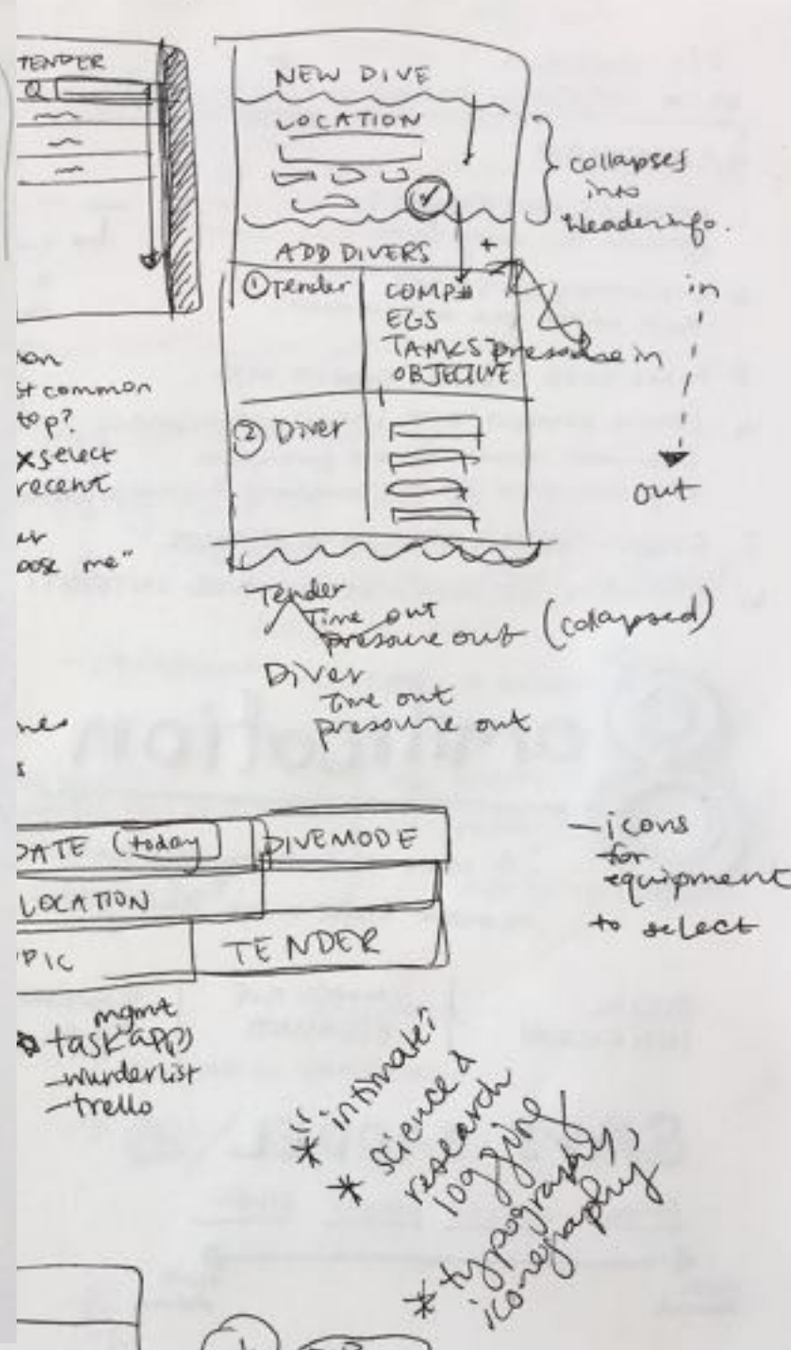
DIVE SCENARIOS: The Field Dive

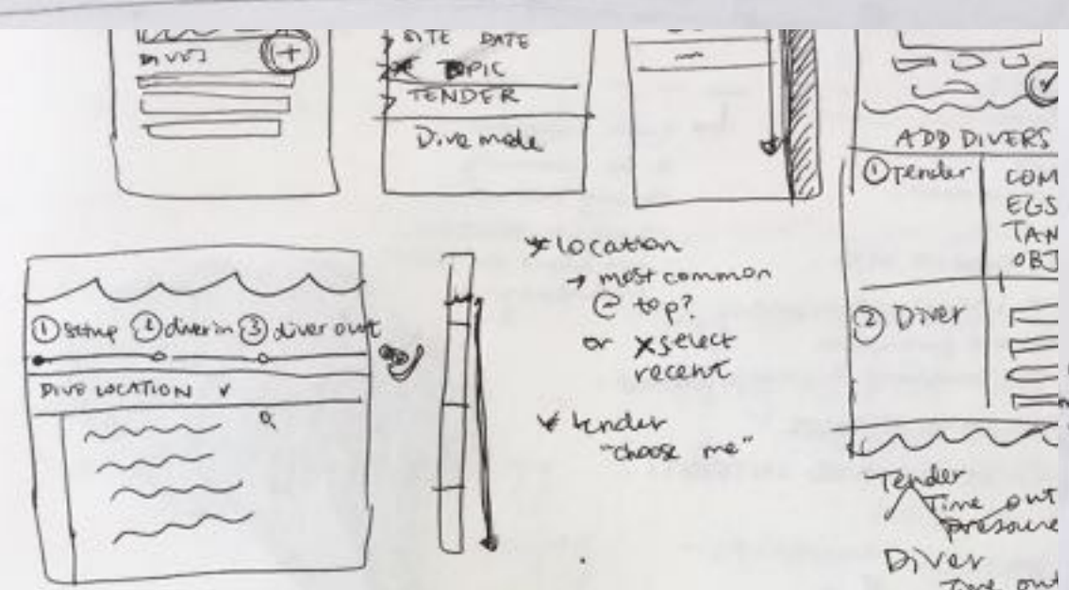


BRAINSTORMING

THE FIRST ITERATION: SKETCHES







BRAINSTORMING

THE FIRST ITERATION: WIREFRAMES

DATE 2/2/2017 | LOCATION | DPIC | TENDER / STANDBY *choose me*

STANDBY INFORMATION — COMP # — EGS START PSI / END PSI — TANK #1 START PSI / END PSI — TIME IN / TIME OUT

DIVERS

- Diver Name
- Diver Name
- Diver Name
- Diver Name
- Diver Name
- Diver Name
- Diver Name
- Diver Name
- Diver Name
- Diver Name
- Diver Name
- Diver Name

Diver 1 Name

SCUBA | CCR | SURFACE SUPPLIED | DIP

COMP #
MAX DEPTH
DIVE OBJECTIVE

EGS START PSI END PSI

TANK #1 START PSI END PSI

TIME IN _____ NOW TIME OUT _____ NOW

+

Diver 2 Name

SCUBA | CCR | SURFACE SUPPLIED | DIP

COMP #
MAX DEPTH
DIVE OBJECTIVE

EGS START PSI END PSI

TANK #1 START PSI END PSI

TIME IN _____ NOW TIME OUT _____ NOW

+

Diver 3 Name

SCUBA | CCR | SURFACE SUPPLIED | DIP

COMP #
MAX DEPTH
DIVE OBJECTIVE

EGS START PSI END PSI

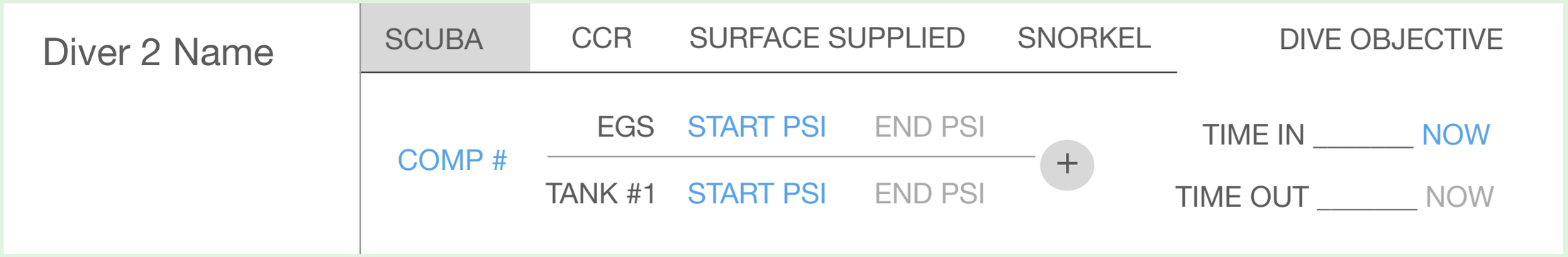
TANK #1 START PSI END PSI

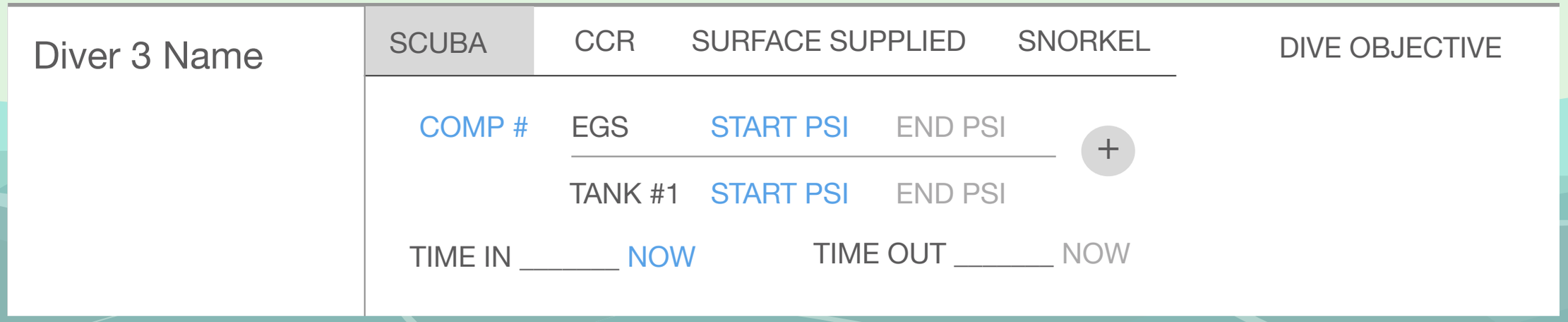
TIME IN _____ NOW TIME OUT _____ NOW

+

BRAINSTORMING

THE FIRST ITERATION: WIREFRAMES





BRAINSTORMING

THE FIRST ITERATION: WIREFRAMES

DATE 2/2/2017 | LOCATION CW10 max depth x ft | DPIC CHARLES LAWTON

STANDBY ALAN GROSSE | COMP # 189 | EGS START PSI 500 | TANK #1 START PSI 3500 +

SCUBA | CCR | SURFACE SUPPLIED | SNORKEL | ALL

Add Divers

Diver 1 Name	COMPUTER NUMBER EGS START PSI END PSI TANK 1 START PSI END PSI +	TIME IN _____ NOW
Diver 2 Name	COMPUTER NUMBER EGS START PSI END PSI TANK 1 START PSI END PSI +	TIME IN _____ NOW

Reference Documents

BRAINSTORMING

THE FIRST ITERATION: WIREFRAMES

DATE 2/2/2017 | LOCATION CW10 max depth x ft | DPIC CHARLES LAWTON

STANDBY ALAN GROSSE | COMP # 189 | EGS START PSI 500 | TANK #1 START PSI 3500 +

SCUBA | CCR | SURFACE SUPPLIED | SNORKEL | ALL

Add Divers

Diver Name
Time In 8:05 am
Time Out 10:31 am

COMPUTER NUMBER 34 | DIVE OBJECTIVE DIP

	START PSI	END PSI
EGS	500	END PSI
TANK 1	1500	END PSI +

Diver Name
Time In 8:06 am
Time Out ____ NOW

COMPUTER NUMBER 35 | DIVE OBJECTIVE DIP

	START PSI	END PSI
EGS	500	END PSI
TANK 1	1500	END PSI +

Reference Documents

TESTING THE WATERS

TESTING THE 1ST PROTOTYPE: KEY QUESTIONS

We asked our stakeholders:

- Does our app allow for the needed **flexibility**?
- Does the **flow** of the app match the flow of the tender?
- Is navigation through the app **intuitive**?
- Is our app possible from a **development** standpoint?

TESTING THE WATERS

TESTING THE 1ST PROTOTYPE: KEY FINDINGS

"I don't know what to do next"

"I don't know what to click"

"What if the user makes a mistake?"

"How do we make it all fit while staying consistent with the design?" (especially CCR)

DIVING DEEPER

SOLUTIONS, PART ONE

“I don’t know what to do next.”

DATE 2/2/2017	LOCATION OV	max depth: x ft	DPIC ANN LEWIN
STANDBY STACEY LEVINE	COMP # 23	TANK # 2	START PSI 500	END PSI _____

SCUBA | CCR | SURFACE SUPPLIED | SNORKEL | ALL

DIVERS

Diver Name

COMPUTER NUMBER DIVE OBJECTIVE

EGS NUMBER START PSI END PSI

TANK NUMBER START PSI END PSI +

Diver Name

COMPUTER NUMBER DIVE OBJECTIVE

TANK NUMBER START PSI END PSI +

REFERENCE DO

DIVING DEEPER

SOLUTIONS, PART ONE

“I don’t know what to click.”

DATE 2/2/2017	LOCATION OV max depth: x ft	DPIC ANN LEWIN

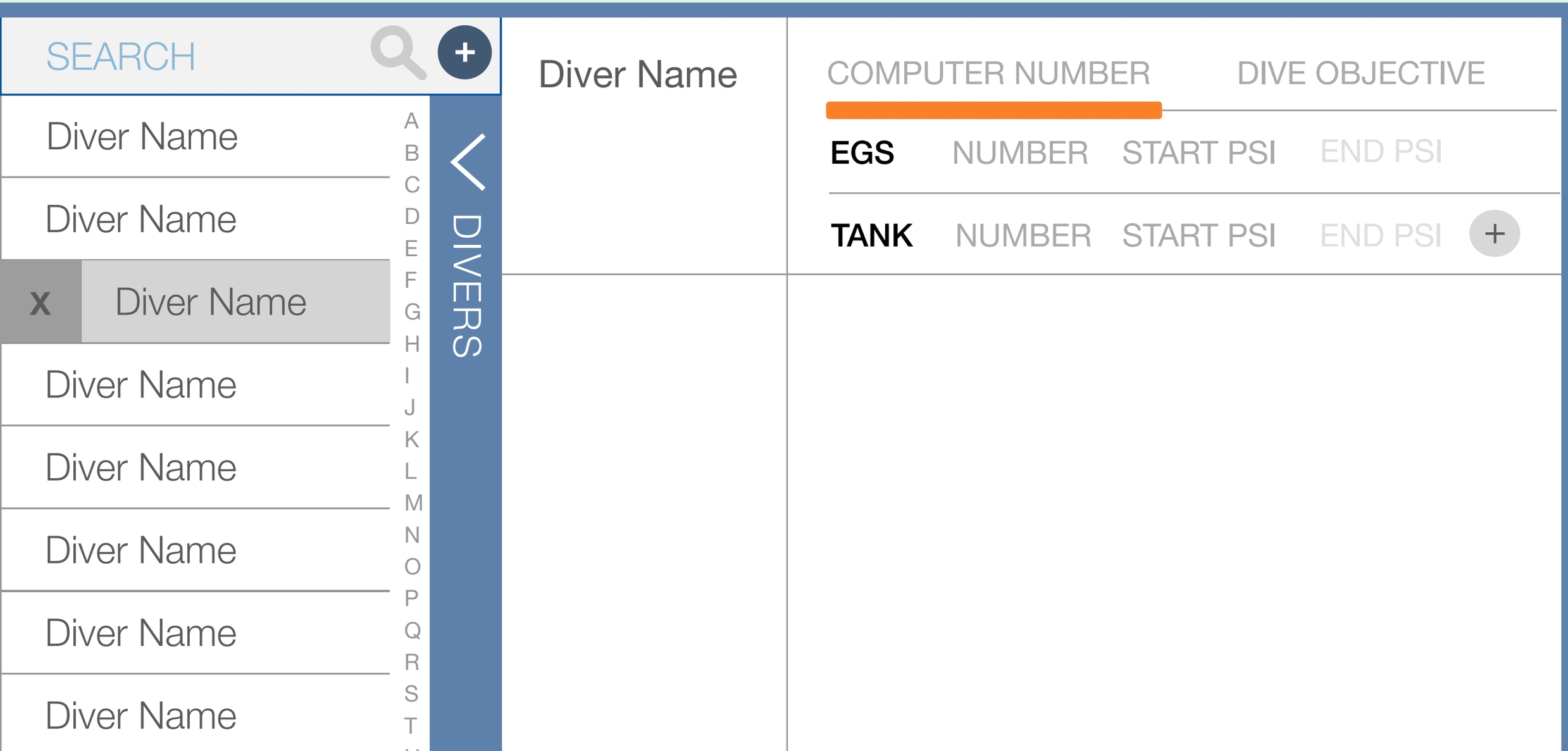
STANDBY STACEY LEVINE COMP # 23 TANK # 2 START PSI 500 END PSI _____

SCUBA	CCR	SURFACE SUPPLIED	SNORKEL	ALL

DIVING DEEPER

SOLUTIONS, PART ONE

“I don’t know what to click.”



DIVING DEEPER

SOLUTIONS, PART ONE

“What if the user makes a mistake?”

DIVING DEEPER

SOLUTIONS, PART ONE

“What if the user makes a mistake?”

DIVING DEEPER

SOLUTIONS, PART ONE

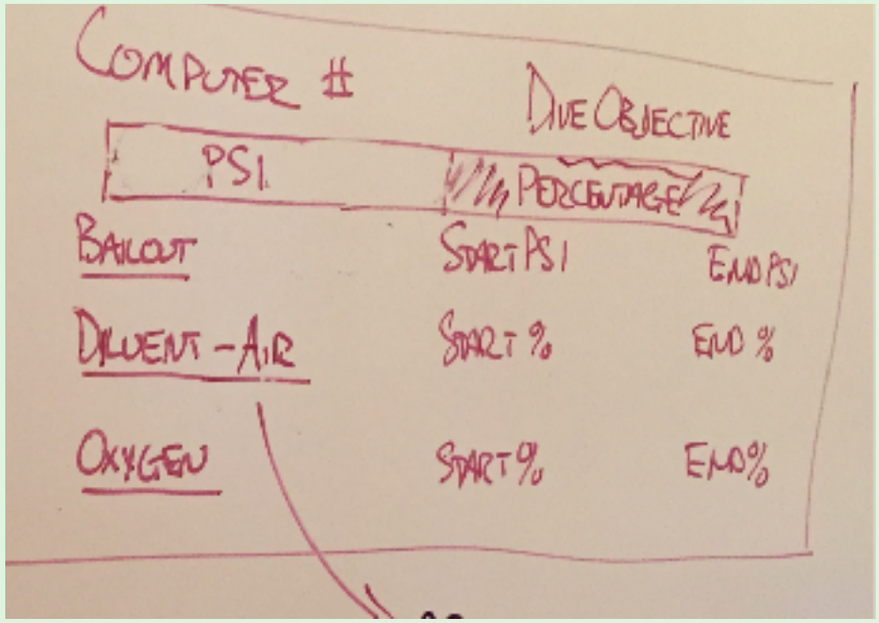
“How do we make it all fit while staying consistent with the design?”

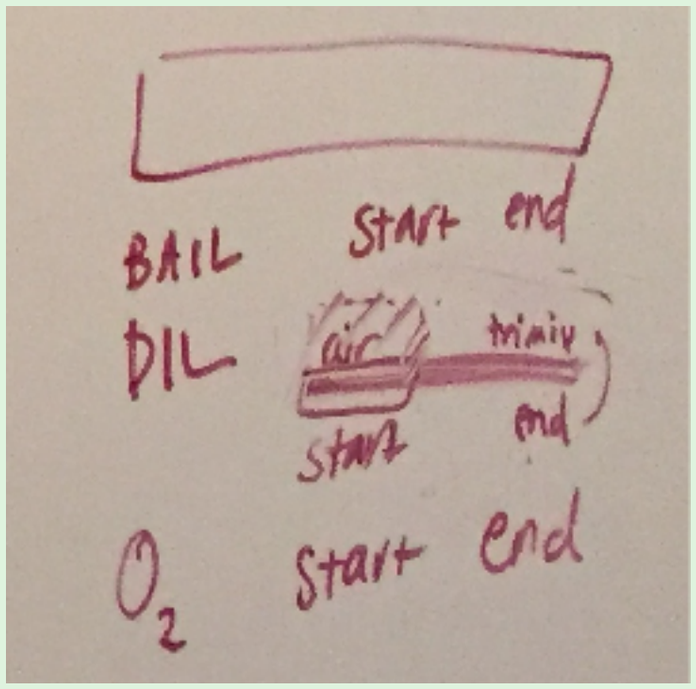
COMP. #	DIVE OBJECTIVE	GAS TYPE
BAILOUT	START PSI	END PSI
DILUENT	% IN	% OUT
OXYGEN	% IN	% OUT +

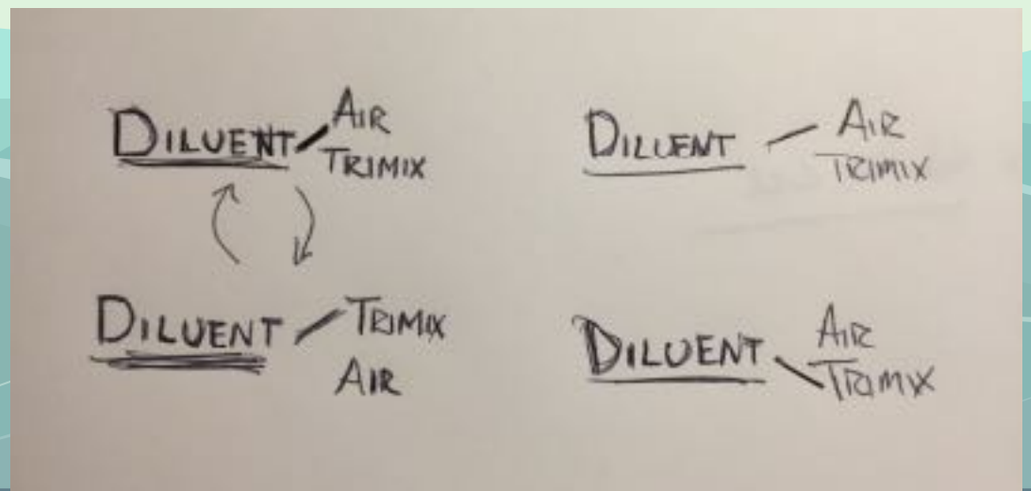
DIVING DEEPER

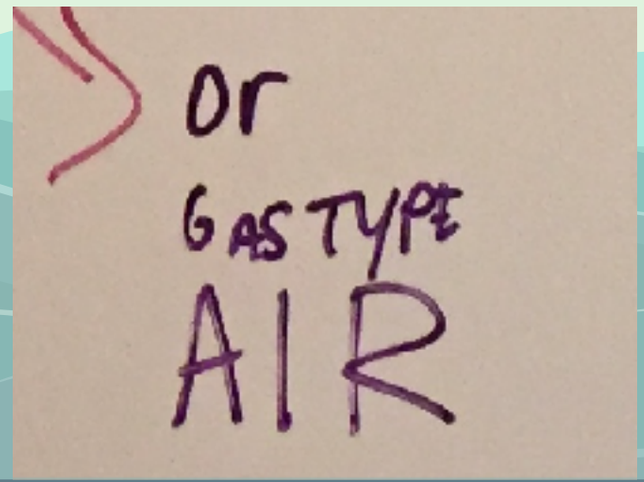
SOLUTIONS, PART ONE

“How do we make it all fit while staying consistent with the design?”









DIVING DEEPER

SOLUTIONS, PART ONE

“How do we make it all fit while staying consistent with the design?”

COMP. #		DIVE OBJECTIVE	PSI | %
BAILOUT		START PSI	END PSI
DILUENT	AIR TRIMIX	START %	END %
OXYGEN		START %	END %

DIVING DEEPER

TESTING THE 2ND PROTOTYPE: WITH TENDERS

- Do our solutions work?
- Did we miss anything?

DIVING DEEPER

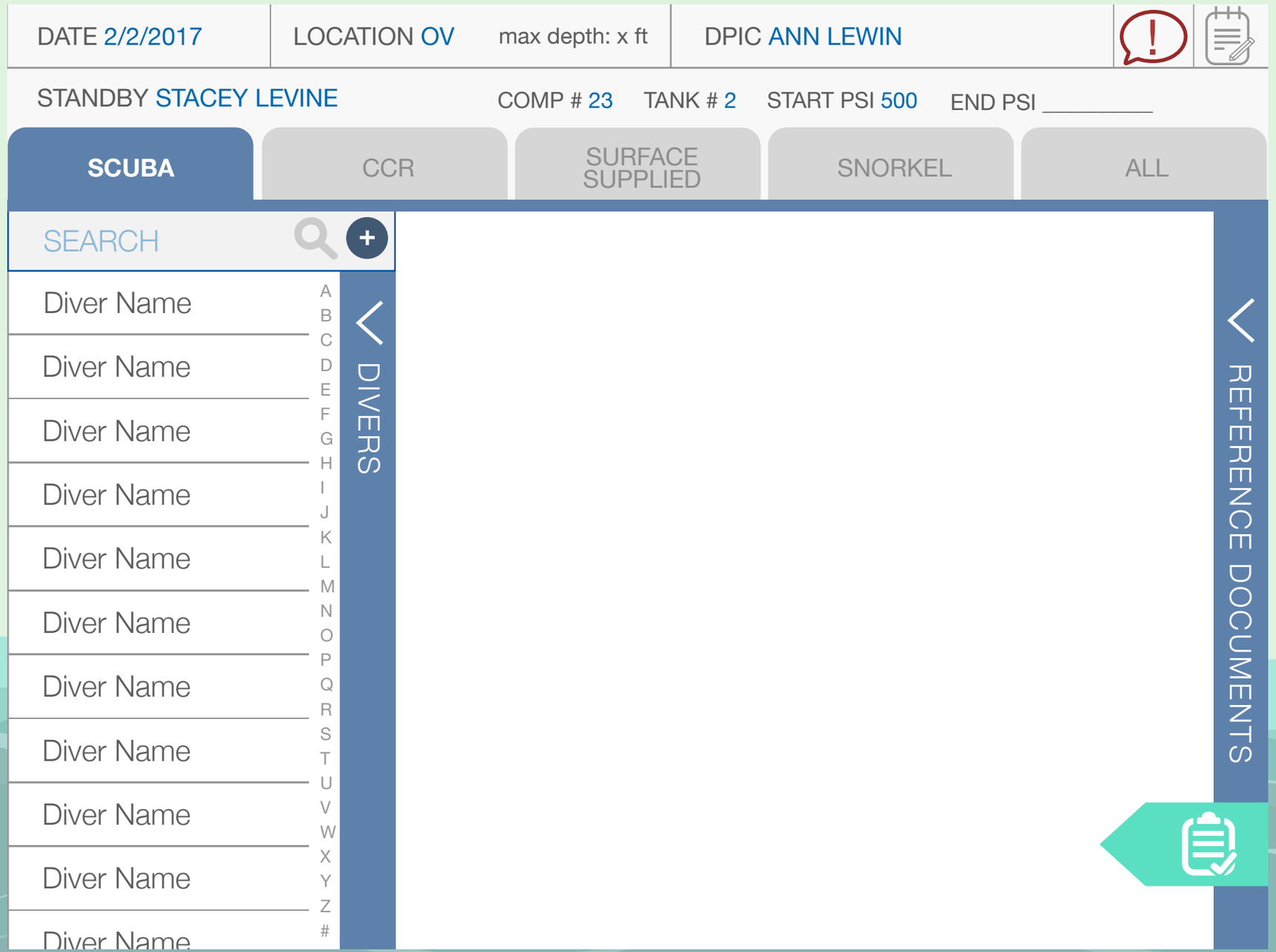
TESTING THE 2ND PROTOTYPE: KEY FINDINGS

"I'm still not sure what's clickable."

DIVING DEEPER

TESTING THE 2ND PROTOTYPE: KEY FINDINGS

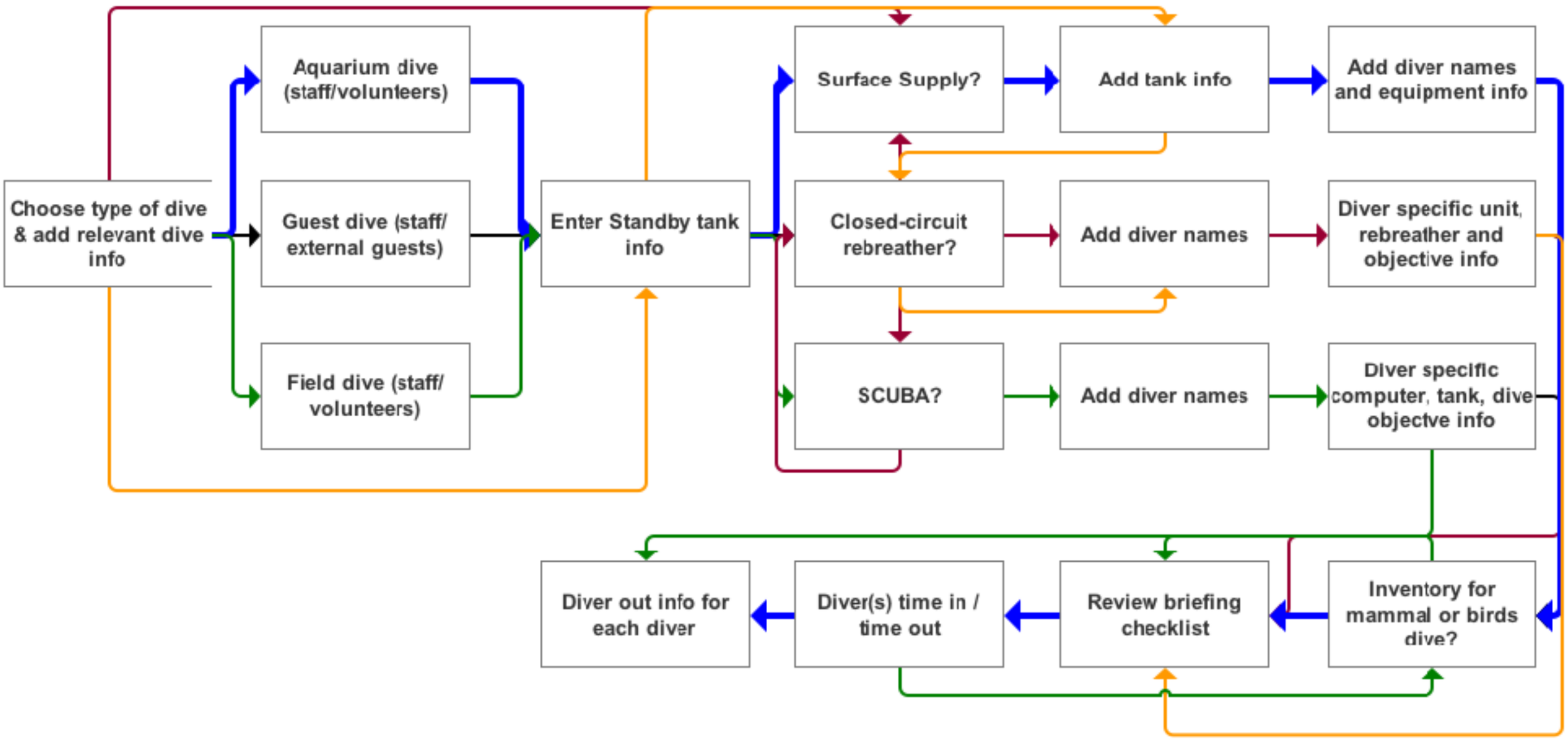
"I don't usually scroll to select divers- I search."



DIVING DEEPER

TESTING THE 2ND PROTOTYPE: KEY FINDINGS

Flexibility is **key**!



DIVING DEEPER

CREATING THE STYLE GUIDE

COLORS

PRIMARY COLORS

#0053A1 #5E81AB

SECONDARY COLORS

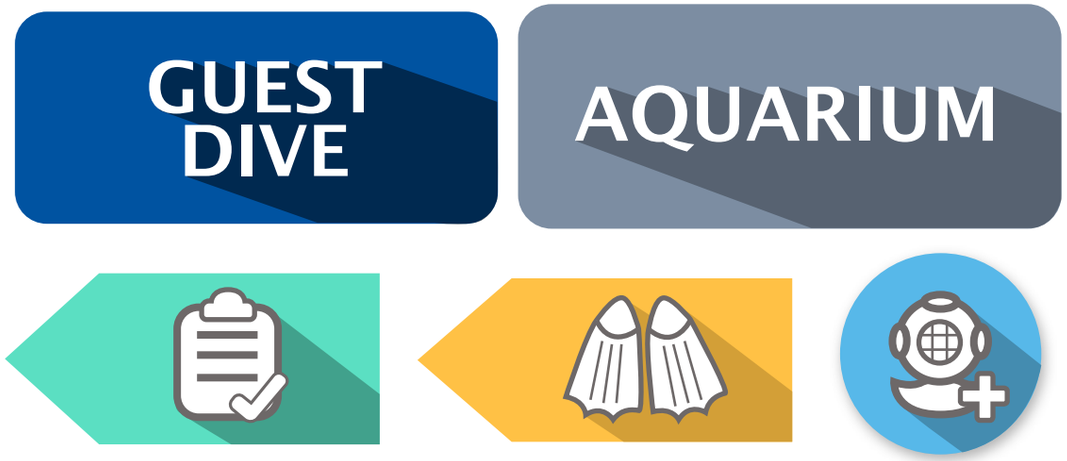
#FB8129 #D6D6D6

TYPOGRAPHY

BODY & TABS AVENIR

BUTTONS LUCIDA GRANDE

ICONOGRAPHY



TO RECAP…

LOCATION

DIVE

ADD A ~~DIVER~~ DIVER:

DIVER 1

DIVERNAME 1 | 2 | 3 | 4 | 5

COMP / EGS

PRESSURE

TIME IN : (min)

TIME OUT (min)

TANK 1

PRESSURE

ADD TANK +

DIVE OBJECTIVE:

- MAINTENANCE
- TRAINING
- FEEDING
- SHOW
- RESEARCH
- SAFETY
- ? OTHER

REMOVE DIVER X

DATE 2/2/2017 | LOCATION | DPIC | TENDER / STANDBY *choose me*

STANDBY INFORMATION | COMP # | EGS START PSI / END PSI | TANK #1 START PSI / END PSI | TIME IN / TIME OUT

DIVERS

Diver Name

Diver Name

Diver Name

Diver Name

Diver Name

Diver Name

Diver Name

Diver Name

Diver Name

Diver Name

Diver Name

Diver Name

Diver Name

Diver Name

Diver 1 Name

SCUBA | CCR | SURFACE SUPPLIED | DIP

COMP #
MAX DEPTH
DIVE OBJECTIVE

EGS START PSI END PSI

TANK #1 START PSI END PSI

TIME IN _____ NOW TIME OUT _____ NOW +

Diver 2 Name

SCUBA | CCR | SURFACE SUPPLIED | DIP

COMP #
MAX DEPTH
DIVE OBJECTIVE

EGS START PSI END PSI

TANK #1 START PSI END PSI

TIME IN _____ NOW TIME OUT _____ NOW +

Diver 3 Name

SCUBA | CCR | SURFACE SUPPLIED | DIP

COMP #
MAX DEPTH
DIVE OBJECTIVE

EGS START PSI END PSI

TANK #1 START PSI END PSI

TIME IN _____ NOW TIME OUT _____ NOW +

DATE 2/2/2017 | LOCATION CW10 max depth x ft | DPIC CHARLES LAWTON

STANDBY ALAN GROSSE | COMP # 189 | EGS START PSI 500 | TANK #1 START PSI 3500 +

SCUBA | CCR | SURFACE SUPPLIED | SNORKEL | ALL

SELECT DIVERS

- Diver Name
- Diver Name
- Diver Name
- Diver Name
- Diver Name
- Diver Name
- Diver Name
- Diver Name
- Diver Name
- Diver Name
- Diver Name
- Diver Name

Diver 1 Name

COMPUTER NUMBER

EGS START PSI END PSI

TANK 1 START PSI END PSI +

Briefing Checklist

Dive Documents

DATE 2/2/2017 | LOCATION OV | max depth x ft | DPIC ANN LEWIN

STANDBY STACEY LEVINE | COMP # 23 | GAS TYPE NONE | START PSI 500 +

SCUBA | CCR | SURFACE SUPPLIED | SNORKEL | ALL

SEARCH

Diver Name

Diver Name

Diver Name

Diver Name

Diver Name

Diver Name

Diver Name

Diver Name

Diver Name

Diver Name

A B C D E F G H I J K L M N O P Q R S T U V W X Y

Add Divers

Diver Name

COMPUTER NUMBER | DIVE OBJECTIVE

EGS | START PSI | END PSI

TANK 1 | START PSI | END PSI +

Reference Documents

Briefing Checklist

DATE 2/2/2017 | LOCATION OV | max depth: x ft | DPIC ANN LEWIN

STANDBY STACEY LEVINE | TANK # 2 | START PSI 500 | END PSI _____

SCUBA | CCR | SURFACE SUPPLIED | SNORKEL | ALL

SEARCH

Diver Name

Diver Name

X Diver Name

Diver Name

Diver Name

Diver Name

Diver Name

Diver Name

Diver Name

Diver Name

Diver Name

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z #

DIVERS

Diver Name

COMPUTER NUMBER | DIVE OBJECTIVE

EGS NUMBER START PSI END PSI

TANK NUMBER START PSI END PSI +

REFERENCE DOCUMENTS

DATE 2/16/2017 | LOCATION CW7 max depth: 10 ft | DPIC AMY ARNOLD

STANDBY ANDREW AGUSTIN COMP # 23 TANK # 4 START PSI 1500 END PSI _____

SCUBA | SURFACE SUPPLIED | CCR | SNORKEL | ALL

John Kay

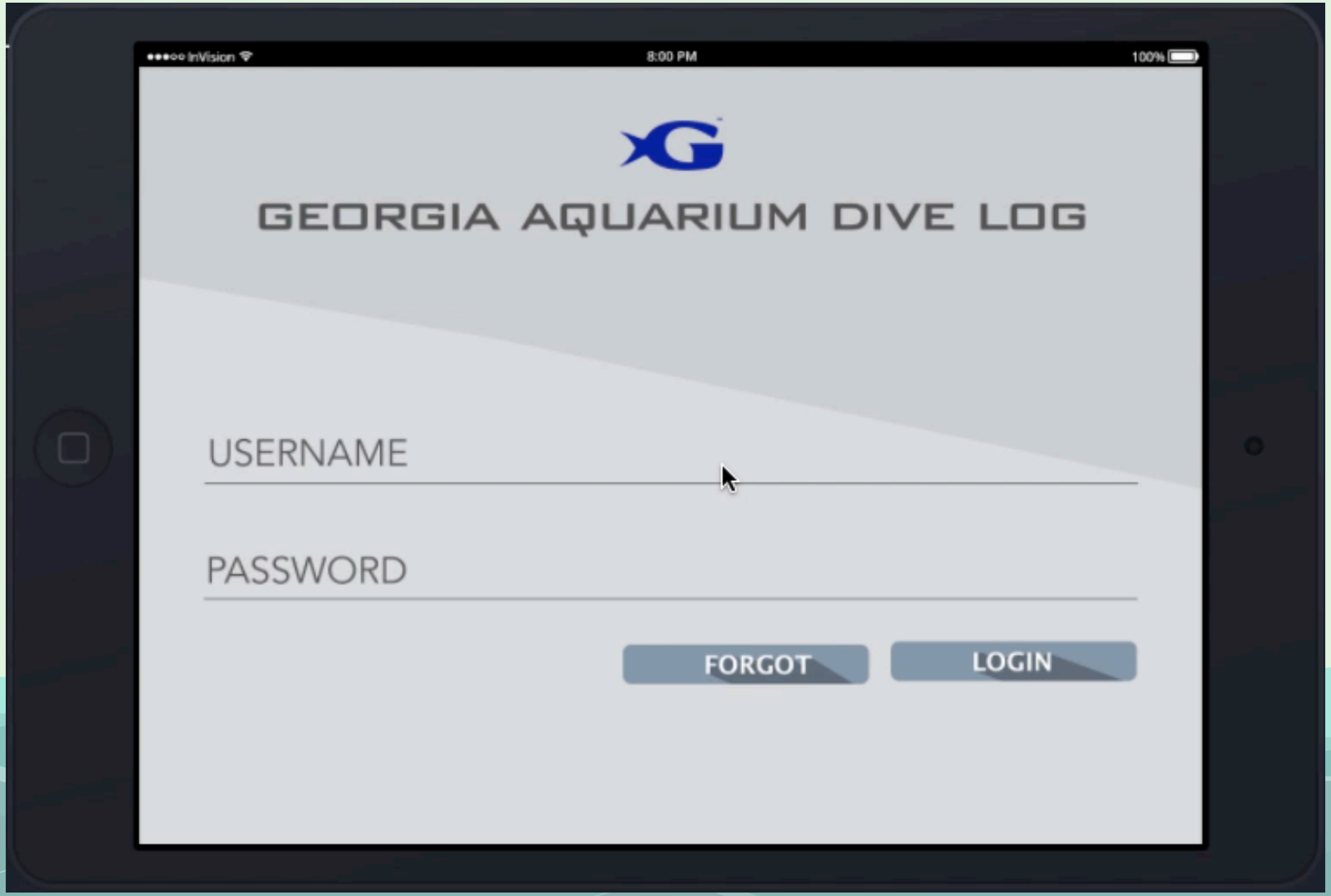
COMPUTER NUMBER DIVE OBJECTIVE

TANK NUMBER START PSI END PSI

REFERENCE DOCUMENTS

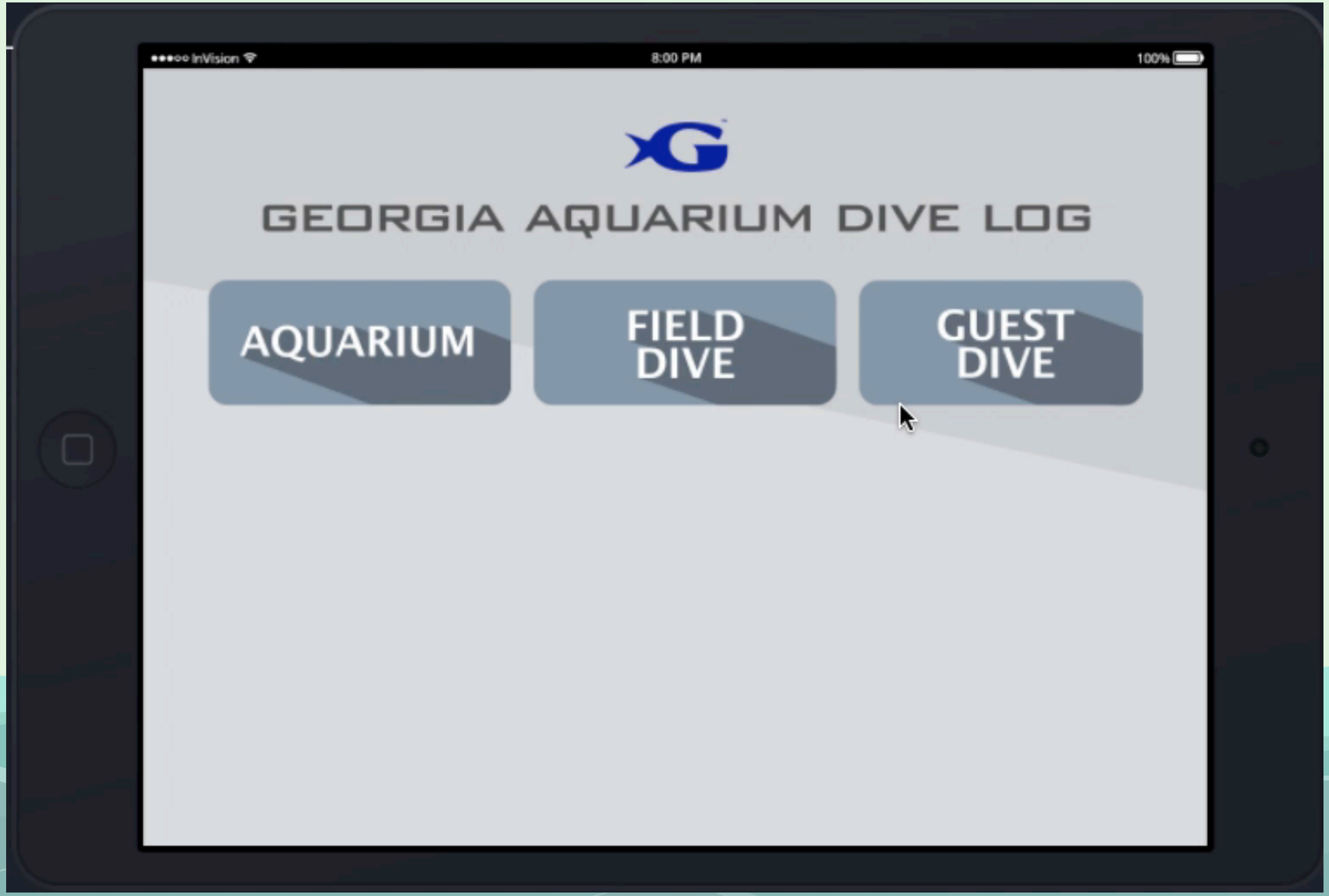
THE FINAL PROTOTYPE

AQUARIUM DIVE SCENARIO



THE FINAL PROTOTYPE

GUEST DIVE SCENARIO



COMING UP FOR AIR

KEY REALIZATIONS

1. Research is iterative!
2. Information architecture is iterative!
3. Sketching is iterative!
4. User testing is iterative!
5. Solutions are iterative!
6. **DESIGN IS ITERATIVE!!**

COMING UP FOR AIR

NEXT STEPS

- Touch base with stakeholders and developers to ensure feasibility of development

- Design additional features (field dive screens, reference documents, safety procedures)

- Additional testing of the third prototype (and iterate again!)

THANK YOU!