



THE QUARTERLY GRANITE

4Q21



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# 01

## BEDROCK INTERNS



**1ST LT STEVE  
MILLER**  
UNIT: 3 AS  
BEDROCK PODCAST  
WEB DEVELOPMENT

1ST LT MILLER DID AN EXCELLENT JOB AT BEDROCK, FACILITATING SEVERAL PUBLICATIONS TO INCLUDE THE KABUL AIRLIFT, INTERVIEW WITH THE INTERNS, AND THE NEWSLETTER. HIS SKILLS WERE VITAL IN SPREADING THE MESSAGE OF BEDROCK, GAINING TECHNICAL EXPERTISE FROM AIR FORCE AND INDUSTRY PARTNERS, AND STRENGTHENING THE AIR FORCE MISSION.



**TSGT LLOYD  
HARRINGTON**  
UNIT: 436 AMXS  
CAD/3D PRINTING  
DATA SCIENCE

TSGT HARRINGTON TOOK CHARGE OF A NUMBER OF PROJECTS AT BEDROCK TO INCLUDE THE C-5 EXTRACTION TOOL, RADIO HEADSET ADAPTER, COMM CABLE TESTER, BLEEDING BOB'S HEART, AND REACTIVE TARGET FOR TALN. IN ADDITION, HE USED HIS CREATIVITY TO ADD NUMEROUS COSMETIC UPDATES TO BEDROCK.



**SRA RANDY  
HALL**  
UNIT: 436 APS  
COMPUTER SCIENCE  
PENETRATION HACKING

SRA HALL DID INCREDIBLE WORK WITH THE "BLEEDING BOB" TRAINING DUMMY, PROVIDING AN INTERFACE TO KEEP VITAL MATERIALS SAFE DURING OPERATION. IN THE 3D PRINTING LAB, HE PROVIDED UTILITIY TO 3 AS WITH HIS MARKER HOLDERS AND HELPED WITH THE RADIO HEADSET ADAPTER.



# INNOVATOR OF THE QUARTER

# 02



**TSGT JASON BYRD  
436TH COMMUNICATIONS SQUADRON**

TSGT JASON BYRD SUBMITTED THREE IDEAS TO DOVERSPARK.ORG. THESE IDEAS INCLUDED ELECTRONIC CODE-ENABLED DOORS, STARLINK TERMINALS, AND AN ELECTRONIC FAXING CAPABILITY FOR AFNET. TSGT BYRD WAS ALSO VITAL DURING THE 5G DISCUSSIONS WITH T-MOBILE, WHICH CAN POTENTIALLY ENHANCE THE CAPABILITIES OF THE BASE BY BOOSTING COMMUNICATION AND EFFICIENCY. TSGT BYRD IS EXCEPTIONALLY ACTIVE AND CONSISTENT WITHIN THE INNOVATION PROGRAM, EMPOWERING MULTI-CAPABLE AIRMEN AND CREATING IDEAS FOR THE FUTURE OF THE AIR FORCE.

# 03

## PAST EVENTS T-MOBILE



BEDROCK HOSTED T-MOBILE TO DISCUSS 5G PRIVATE NETWORKS AND NEW TECHNOLOGY THE SPECTRUM ENABLES. THE T-MOBILE DEMONSTRATION INCLUDED HIGH VALUE ASSET TRACKING AND AUGMENTED REALITY MAINTENANCE APPLICATIONS. THE VISIT WAS AN ENGAGEMENT AIMED TO EDUCATE DOVER AIRMEN AND IDENTIFY AREAS WHERE NEW TECHNOLOGIES CAN POTENTIALLY ADVANCE DOVER AFB'S RAPID GLOBAL MOBILITY MISSION.



# 04

## PAST EVENTS

### BOEING

EXPERTS FROM BOEING SHOWCASED EMERGING TECHNOLOGIES AT BEDROCK IN AN EXPO ARRANGED BY FORMER BEDROCK INTERN CAPT. BEN BESSLER. THE VISIT WAS AN EDUCATIONAL OPPORTUNITY FOR OUR AIRMEN TO UNDERSTAND FUTURE DIGITAL CAPABILITIES THAT CAN REVOLUTIONIZE THE WAY THEY ACCOMPLISH THEIR JOBS AND INCREASE EFFICIENCY.

"THE BOEING TEAM PROVIDED DEMONSTRATIONS ON VIRTUAL AND AUGMENTED REALITY TRAINING FOR MAINTENANCE AND AIRCREW PERSONNEL. THIS INCLUDED THE C-17 MISSION COMPUTER TRAINER, A COMPREHENSIVE TRAINING SOLUTION FOR AIRCREW AND LOADMASTERS WITH ADVANCED SIMULATION, COURSEWARE AND COMPUTER-BASED TRAINING TO COMPLETE A RANGE OF TASKS REQUIRED FOR TACTICAL MILITARY AIRLIFT OPERATIONS AND HUMANITARIAN MISSIONS, AS WELL AS AERIAL REFUELING AND EMERGENCY PROCEDURES." - TECH. SGT. NICOLE LEIDHOLM, 436TH AIRLIFT WING PUBLIC AFFAIRS



# 05

## PAST EVENTS

# UNIVERSITY OF DELAWARE

## CENTER FOR AUTONOMOUS AND ROBOTIC SYSTEMS



**DR. HERBERT TANNER, DIRECTOR OF THE CENTER FOR AUTONOMOUS ROBOTIC SYSTEMS, GAVE BEDROCK A COMPREHENSIVE TOUR OF THE ENGINEERING FACILITIES AND SHOWCASED SEVERAL PROJECTS. BEDROCK IS HOSTING THE UNIVERSITY OF DELAWARE TEAM IN JANUARY TO CEMENT A STRATEGIC PARTNERSHIP.**



# 06

# PAST EVENTS

# I/ITSEC 2021

AIR FORCE LIFECYCLE MANAGEMENT CENTER INVITED BEDROCK TO THE INTERSERVICE / INDUSTRY TRAINING, SIMULATION & EDUCATION CONFERENCE (I/ITSEC 2021). THE EVENT IS THE “WORLD’S LARGEST MODELING, SIMULATION & TRAINING EVENT.”

WHILE THERE, BEDROCK TOOK PART IN MATCH GAME, WHERE BEDROCK PITCHED A SOLUTION FOR C5 AERIAL REFUELING TRAINING TO THREE VIRTUAL REALITY COMPANIES. AT THE END OF THE CONFERENCE, THROUGH AN AUDIENCE VOTE, BEDROCK WAS PAIRED WITH A COMPANY TO EXPLORE FUTURE CAPABILITIES.



# 07

## PAST EVENTS

### WOMEN IN AVIATION MAINTENANCE

MEMBERS FROM THE MILITARY WOMEN IN AVIATION MAINTENANCE ASSOCIATION HELD A MEETING AT BEDROCK. EACH OF THESE MEMBERS CONTRIBUTES TO THE CULTURE OF EXCELLENCE AT TEAM DOVER.



### SAINT JOSEPH'S UNIVERSITY ROTC

CURRENT CGO'S TOOK TIME TO GIVE ROTC MEMBERS FROM SAINT JOSEPH'S UNIVERSITY TOOK A TOUR OF DAFB, GIVING THEM SEMBLANCE OF OPERATIONAL LIFE AND ALLOWING THEM TO PREPARE TO BE FUTURE LEADERS.



# 08

## PROJECTS

### HEADSET RADIO ADAPTER

Bedrock created a component that is able to merge the capabilities of a headset and walkie-talkie. It simply clips to the uniform, making it easy to use. There are many useful applications and uses for this adapter. Maintainers in the aircraft on headset are now able to freely talk to ground crews and alert them of potential threats. This frees up the hands of maintainers and creates a safer, more efficient work environment.



Runway Analysis Weather Admin

Single Point Mini Table Full Table Library Job Queue SDP

Aircraft Config

C-17A/F117-PW-100 BLOCK ... C17A UserGuide

Request Description

 Takeoff Analysis  Landing Analysis  Both

TakeOff

Takeoff Position (ft)

350

RCR

23

Center of Gravity

42

Drag Index

7

Anti-Ice

Anti-ice off

Engine Out Compensation Sys

EOCS Required

# MILPLANNER BOT

## 2D LT HANNAH COMPTON

### BEDROCK

# PROJECTS

09

#### Airport and Weather Conditions

Departure KADW

Get Data

Get SDP

 Display Length Adjustments/Temporary Obstacles Display Intersections

ADW/KADW (Airport Data Updated 07 December 2021) Airport/Wx Info

<input checked="" type="checkbox"/>	RUNWAY	TORA	Reduce Approach End	Reduce Departure End	Extend Approach End
<input checked="" type="checkbox"/>	01L	9318	0	0	0
<input checked="" type="checkbox"/>	01R	9756	0	0	0
<input checked="" type="checkbox"/>	19L	9756	0	0	0
<input checked="" type="checkbox"/>	19R	9318	0	0	0

All Runway Lengths are in (ft)

Wind Component #1: -10  
 Wind Component #2: -8  
 Flex Temps  
 Lower: -10 Start Point: 29.72 QNH (inches): 29.72

Prior to flying a worldwide mission, pilots spend an average of 1.5 hours assembling departure procedures from the MilPlanner website, inputting the same data over and over again for multiple airfields. The MilPlanner Bot greatly reduces the amount of time pilots must spend on this task. The program allows the pilot to input the required airfields, temperature ranges, altimeter setting, and Special Departure Procedure information one time, then the program gathers the information for every leg of the trip with one click of a button. This will save thousands of man-hours per year.

```

File Edit View Navigate Code Refactor Run Tools VCS Window Help planeBot2.0 - main.py
planeBot2.0 main.py
Project main.py
156
157     # Log in
158     driver.find_element(By.XPATH, username_login).click()
159     driver.find_element(By.XPATH, username_login).send_keys(username)
160     driver.find_element(By.XPATH, password_login).click()
161     driver.find_element(By.XPATH, password_login).send_keys(password)
162     driver.find_element(By.XPATH, login_submit).click()
163
164     # Click on 'Runway Analysis' Tab
165     driver.switch_to.frame("mainTop")
166     driver.find_element(By.XPATH, runwayanalysis_tab).click()
167
168     # Click on 'Full Table' Tab
169     driver.switch_to.default_content()
170     driver.switch_to.frame("mainBottom")
171     driver.find_element(By.XPATH, fulltable_tab).click()
172
173     # Aircraft Config 'Dropbox'
174     time.sleep(3)
175     actions = ActionChains(driver)
176     for i in range(6): # six tabs, navigating to dropbox
177         actions.send_keys(Keys.TAB)
178         actions.perform()
179     actions.send_keys(Keys.ENTER) # one enter, selecting dropdown
180     actions.perform()
181     actions.send_keys(Keys.ARROW_DOWN) # one arrow down, selects C-17 option, will be different for other planes
182     actions.perform()
183     actions.send_keys(Keys.ENTER) # one enter
184     actions.perform()

for x in range(len(allAirfields...))

```



# 10

## PROJECTS

### “BLEEDING BOB” TALN TRAINER

TSGT JEREMY AIUMU: 736 AMXS

The realistic training dummy, otherwise known as “Bleeding Bob,” sprays life-like fluids out of the patient in order to provide a more realistic training environment. Interns at Bedrock created a component using 3D printing capabilities that protects electrical wiring from its external environment. The component fits to the existing pump within the dummy, and is designed to withstand rapid movement as well as the liquids that previously destroyed the training tool.



### C-5 SPINNER REMOVAL TOOL

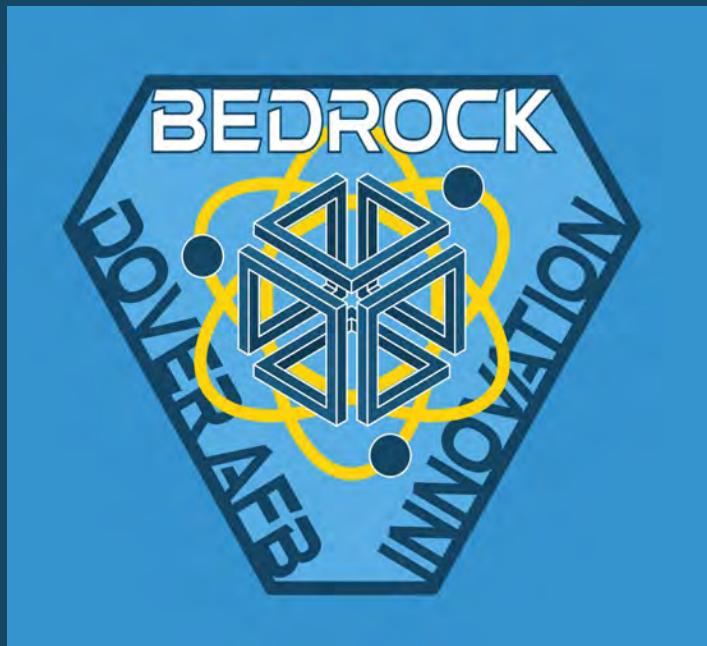
TSGT LLOYD HARRINGTON: 436 AMXS

The C-5 spinner removal tool is a simple, yet effective tool for removing the spinner from the C-5. This tool saves maintenance crew lots of time and frustration that is present with their current situation. Quantitatively, it will save hundreds of man-hours per years and provide a greater level of safety.

# PODCASTS

## THE KABUL AIRLIFT

**IN AUGUST 2021, C-17'S CONDUCTED THE LARGEST AERIAL EVACUATION OF CIVILIANS IN AMERICAN HISTORY FROM HAMID KARZAI INTERNATIONAL AIRPORT IN KABUL, AFGHANISTAN. DOVER AFB'S 3D AIRLIFT SQUADRON PLAYED A VITAL ROLE IN THIS HISTORIC OPERATION. 1ST LT STEVE MILLER SITS DOWN WITH PILOTS AND LOADMASTERS FROM THE 3D AIRLIFT SQUADRON TO DISCUSS THEIR HARROWING FLIGHTS AND THE C-17'S UNIQUE CAPABILITIES.**



## BEDROCK INTERN PROGRAM

**WANT TO KNOW WHAT IT'S LIKE TO WORK AT BEDROCK? MAJ RYAN NICHOL SITS DOWN WITH BEDROCK'S MOST RECENT INTERNSHIP GRADUATES, DISCUSSING THE OPPORTUNITIES, THE VENUE, HOW TO APPLY, AND THE SKILLS YOU'D LEARN BY WORKING AT DOVER AFB'S SPARK LAB!**



APPLE



SPOTIFY



GOOGLE PODCASTS