TEST VERIFICATION

FUNCTION	FEATURE TO BE TESTED	PLANNED TEST	DEFINITION OF PASS/FAIL	PASS/FAIL
PROGRAMMING THE 6 AXIS MOTION SENSOR	TEST THE I2C FUCNTIONALITY AND UNDERSTAND	CONFIGURE ALL DIFFERENT REGISTERS AND CHECK ITS WORKING	GOOD UNDERSTANDING OF HOW THE MOTION SENSOR WORKS	PASS
SETTING THE FULL SCALE VALUE OF ACCELEROMETER TO MEET APPLICATION	CONSIDERATION OF THE FS VALUE TO BE SENSITIVE ENOUGH TO MEASURE TILT	OBTAIN ACCURATE RESULTS WITH DIFFERNTIATION WHILE TILTING	ABLE TO DIFFERENTIATE EACH TILT WITH A DEFINED LEVEL OF ACCURACY	PASS AT FS VALUE OF +/- 2G
EXPLORE IDEA OF USING MAGNETOMETER	STUDY MAGNETOMETER OUTPUTS FOR DIFFERENT TILTS	CHECK IF DATA ON MAGNETOMETER IS RELEVANT FOR APPLICATION	GOOD GRASP OF HOW THE MAGNETOMETER WORKS	PASS
SEE IF MAGNETOMETER COMMUNICATION THROUGH I2C IS POSSIBLE ALONG WIITH EXISTING ACCELEROMETER	SIMULATANEOUS COMMUNICATION TO TWO I2C SENSORS	CHECK IF COMMUNICATION TO BOTH I2C DEVICES HAPPEN	MAGNETOMETER CAN BE TALKED TO AND DATA CAN BE READ FROM IT	PASS
UNDERSTANDING MOTOR CONTROL USING A H BRIDGE	READ DATA SHEET OF H BRIDGE AND UNDERSTAND IT	AN IDEA OF HOW TO CONTROL THE H BRIDGE	UNDERSTANDING HOW H BRIDGES WORK	PASS
DECIDING HOW TO GENERATE PWM ON THE LEOPARD GECKO FOR THE USER APPLICATION	CONSIDER USING SOME PWM MODULE ON LG	CODE AND CHECK IF PWM WORKS	PWM SHOULD BE GENERATED ON THE DESIRED PIN	PASS
CONTROL THE PWM FREQUENCY AND DUTY CYCLE	CHANGE THE DUTY CYCLE OF PWM	PWM DUTY CYCLE CHANGES	PWM DUTY CYCLE CHANGES	PASS
CONFIGURING INTERRUPTS ON THE MOTION SENSOR	ABLE TO DETECT TILT BASED ON INTERRUPTS RATHER THAN POLLING	CHECK IF INTERRUPTS WORK ON THE 6 AXIS	ABLE TO CONFIGURE INTERRUPTS WIITH SOME ACCURACY	PASS
CONFIGURING INTERRUPTS TO DETECT EXACT TILT OF THE BOARD	CONFIGURING INTERRUPTS ON +/-15, 30 AND 45 DEGREES	TILT BOARD AND VERIFY IF INTERRUPTS OCCUR	INTERRUPTS OCCUR ON THE ACCELEROMETER	PASS
USING MAGNETOMETER TO HELP IN MAKING BETTER TILT DECISIONS	**USE MAG VALUE ALONG WITH EXISTING ACCEL VALUES**	**SEE IF MAG CAN BE INTEGRATED INTO THE SETUP**	**IMPROVED ACCURACY OF DATA READINGS**	**FAIL- MAGNETOMETER VALUES WERE ABSOLUTE, MEANING THEY CHANGED WHEN THE HOVERBOARD WAS ROTATED ALONG Z AXIS- THIS LED TO AN INFINTE NUMBER OF STATE MACHINES FOR THE MAGNETOMETER**
RESOLVE THE MOTOR JERKING PROBLEMS	INVESTIGATE THE REASON FOR RANDOM MOTOR JERKS	TRY AND REMOVE THESE RANDOM JERKS	USE A DECOUPLING CAP ON THE H BRIDGE TO REMOVE THE JERKS	PASS
ADDING TEMPEREATURE PROFILE TO THE BLE	ADD A PROFILE TO BLE	CHCEK IF THE PRFOILE IS REFLECTED ON THE PHONE	THE PROFILE IS CREATED AND VALUES CAN BE RECEIVED ON THE PHONE	PASS

SENDING TEMPERATURE DATA TO BLE	SEND LGs TEMPERATURE DATA THROUGH UART TO PHONE	SEE IN DEBUGGER IF TEMPERATURE DATA IS CREATED AND IS SENT	DATA IS RECEIVED VIA THE UART ON THE PHONE	PASS
CHANGE DIRECTION AND SPEED OF THE MOTOR	SEE IF H BRIDGE AND MOTION SENSOR DATA CAN BE INTEGRATED	SEE IF MOTOR SPEED AND DIRECTION CHANGES	MOTOR SPEED AND DIRECTION CHANGES	PASS
ADDING A SECOND PROFILE TO BLE	ADDING THE HEART RATE PROFILE TO THE BLE	SEE IF HEART RATE PROFILE WORKS IN CONJUNCTION WITH THE TEMPERATURE PROFILE	VALUES ARE UPDATED IN BOTH PROFILES	PASS
SENND TILT ANGLE OF BOARD TO HR PROFILE	SEND ANGLES 15,30, 45 OR 115,130 OR 145 TO HR PROFILE	SEE IF VALUES GET REFLECTED ON THE PHONE	VALUES GET UPDATED WITHOUT FAIL	PASS
CIRCULAR BUFFER	USE SHARED RESOURCES USING CIRCUALR BUFFER FOR UART	TRIIGER MULTIPLE EVENTS AND SEE IF CIRCUALR BUFFER WORKS	CIRCULAR BUFFER WORKS AND THERS NO DATA CORRUPTION	PASS
CAPSENSE USINNG LESNSE	ADD CAPSENSE USING LESENSE	CAPSENSE SENSOR WORKS	CAPSENSE SHOULD FCNTION AS ON/OFF SWITCH FOR THE SYSTEM	PASS
ADD FORCE SENSITIVE ANLAOG SENSOR TO SYSTEM	INTEGRATE FORCE SENSITIVE RESITSORS USING LESENSE	THE FSR SHOULD FUNCTION AND GENERATE INTERRUPT USING LESENSE	INTERRUPTS ARE GENERATED WHEN THE FSR IS PRESSED AND RELEASED	PASS
ADD ANOTHER FSR TO THE HOVERBOARD	INTEGRATE SECOND FSR USING LESENSE	ANOTHER FSR SHOULD BE INTEGRATED WITH THE EXISTING FSR ON LESENSE	INTERRUPTS ARE GENERATED WHEN EITHER FSRs ARE PRESSED OR RELEASED	PASS
WRITE STATE MACHINES FOR FUNCTIONALITY OF THE TWO FSRs	THE SYSTEM SHOULD TAKE INTO ACCOUNT HOW THE TWO FSRs CAN BE USED IN ACCORDANCE TO CONTROL THE MOTOR DIRECTION	OPPOSITE MOTOR OF THE CORRESPONDING FSR SHOULD ROTATE WHEN THE FSR IS PRESSED	MOTORS FUNCITON CORRECTLY WHEN FSR ARE PRESSED ACCORDINGLY	PASS
UNDERSTANDING WORKING ON THE ULTRASONIC SENSOR	UNDERSTAND THE DDATA SHEET OF THE ULTRASONIC SENSOR	GOOD UNDERSTANDIGN OF THE ULTRSONIC SENSOR	UNDERSTAND ULTRSONIC SENSOR WORKING	PASS
INTEGRATE ULTRSONIC SENSOR USING LESENSE	ADD ULTRSONIC SENSOR MONITORING ON THE LESENSE CHANNEL	SHOULD TRIGGER A SYSTEM STOP WHEN OBSTACLE IS IN PATH	THE MOTORS STOP WHEN AN OBSTACLE IS DETECTED	PASS
ALL THE SENSORS WORKING TOGETHER	SEAMLESS WORKING OF THE HOVERBAORD WITH ALL SENSORS INTEGRATED	CHECK IF THE HOVERBAORD WORKS AS PER PROPOSAL	THE HOVERBOARD FUNCTIONS AS PER THE DEFINED CONDITIONS	PASS
FIXING CON INTERVAL AND SLAVE LATENCY ON BLE	THE CONN INTERVAL AND SLAVE LATENCY MUST BE OPTIMIZED	THE POWER CONSUMED BY BLE SHOULD BE AS MINIMUM AS POSSIBLE	THE CONN INTERVAL AND SLAVE LATENCY CAN BE OPTIMIZED	PASS

MAGNETOMETER TEMPERATURE VALUES	**USE TEMP DATA FROM MAGNETOMETER AS SYSTEM TEMPERATURE**	**READ VALUES OF TEMPERATURE AND DISPLAY ON PHONE**	**TEMPERTAURE DATA IS NOW READD FROM THE MAGNETOMETER**	**PARTIAL PASS: THE VALEUS CAN BE READ BUT THE MAGNETOMETER DOES NOT PROVIDE ABSOLUTE TEMPERATURE READINGS**
BLE BATTERY PROFILE	ADD ANOTHER PROFILE ON BLE TO SHOW ULTRASONIC SENSOR DATA	THE VALUES FROM THE ECHO PIN ON THE ULTRSONIC SENSOR SHOULD BE DISPLAYED ON THE PHONE	THE VALUES GETS UPDATED AND WORK SIMULTANEOUSLY FOR ALL PROFILES	PASS
AMBIENT LIGHT SENSOR USING LESENSE	ABLE TO DETECT DARKNESS AND LIGHT USING LESENSE	LED0 SHOULD GLOW ON DARKNESS AND TURN OFF ON LIGHT DETECITON	SEE IF DARKNESS AND LIGHT ARE DETECTED CORRECTLY	PASS
HOVERBOARD WORKS AS PER PROOJECT PROPOSAL REPLICATING AN ACTUAL HOVERBAORD	**ALL THE INDIVIDUAL COMPONENTS OF THE BOARD WORKS AND THE DELIVERALBLES PROMISED IN THE PROPOSAL WERE DELIVERED**	**SEE IF THE PROTOYPE DURABLY WORKS LIKE AN ACTUAL HOVERBAORD**	**DEMO OF THE HOVERBOARD WORKING**	**PASS**