



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES
COLLEGE OF ENGINEERING
COMPUTER ENGINEERING DEPARTMENT

I.10. The institution ensures that:

I.10.1. research outputs are protected by IPR laws; and



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES COLLEGE OF ENGINEERING **COMPUTER ENGINEERING DEPARTMENT**

Bachelor of Science in Computer Engineering Copyright 2017

	REGISTRATION NUMBER	THESIS TITLE	AUTHOR/S
1.	02017-3413	SIGN LANGUAGE: A NON-SIGNERS' GUIDE THROUGH HAND MOVEMENT ANALYSIS AND FACE RECOGNITION	CARL C. CORTINA, ANTHONY LOUISE P. BALON, NERIEL P. MALLARI & JERVIN A. MANDAPAT
2.	02017-3414	SOLAR POWERED VENDING MACHINE DISPENSING POTABLE WATER IN EXCHANGE OF EMPTY PLASTIC BOTTLES WITH SMS NOTIFICATION	LORENNCE A. ARAGO, JASPER JOHN G. BAUTISTA, RINA CHARLENE L. RUBIO & MICHAEL JON C. SAPALO
3.	02017-3415	AUTONOMOUS DISASTER RISK RESPONSE DRONE BUILT ON TOP OF AKSYON SENTRAL PLATFORM	WILLIAM B. CABALLERO JR., FRANCISC JERHONE E. CAMILLO, SHELLA MAY B. CANTOS & CHRISTIAN ASHLEY P. MONES
4.	02017-3416	AUTOMATED PRE-FERMATATION BANANA WINE MAKER	REDICK A. BUTAY, JON RAE M. DAMPIL, JUSTINE PHILIP A. FERRER & KIM HUBERT L. ROSALES
5.	02017-3441	SILAW: A HYBRID RENEWABLE ENERGY-POWERED LIGHT BUOY SYSTEM HARNESSING SEA ENERGY POTENTIALS	JANN WARREN S. ARALAR, CHRISTOPHER RENZ R. ARNAU, JOHN ANGELO D. MARIANO & IAN KENNETH M. POBLETE
6.	02017-3451	BUS PASSENGER MONITORING AND TICKETING SYSTEM USING RFID	RODEMAR JOHN A. AGUILAR, ARJAY C. DALA, PEACH F. DAPITAN & ARRAH SHAINA L. LUMBRERAS
7.	02017-3453	AUTOMATIC DOG FEEDER WITH MONITORING SYSTEM AND MOBILE APPLICATION	ANGELA B. MILALLOS, ROEMAR PAJARON & AKIRA KIM H. SORIANO
8.	02017-3454	MCU-BASED STEAM IRON	RISH JOY O. DEL ROSARIO, SERJAY S. ILAGA, TELLO O. TAMAYO & JOCELLE L. TANQUI-ON
9.	02017-3462	INSTAGRIND: FRESH GROUND COFFEE FROM ROASTING TO GRINDING	JOBELLE H. SAN JUAN, DIANE CHRISTELLE S. SISMUNDO, AIRIANEE JASMINEE D. TANYAG & DANICA FAYE S.A. VILLANUEVA
10.	02017-3463	HOME GREYWATER WASTE FILTRATION USING CORN COB WITH MONITORING	JAY JASPER R. BAGAY, JHOFFER VINCENT A. CASTILLO, CHARISSE MARIEL V. MEDINA & ROMMEL R. REYES JR.
11.	02017-3464	AUTOMATED GRINDER, BOILER AND STRAINER FOR SOYMILK AND SILKEN TOFU MAKER	JAYVEE G. ASUNCION, ROMINA SHAYE V. BANADERA, WARREN MAE A. BERNABE & SHEILA VICTORIA C. ASUNCION
12.	02017-3465	FRUIT AND VEGETABLE E-SLICER	CHRISTIAN JAY G. ALIGAGA, JASON L. CONCEPCION, JOHN BENEDICT G. DIMALALUAN & ROSE S. FORTALIZA
13.	02017-3466	THE DEVELOPMENT OF SMART-INTERACTIVE MIRROR USING RASPBERRY PI	ALEJANDRO D. DOMANTAY JR., STAN ROE P. ROSALES, ERICK JOHN V. TAPADO & CELINE V. TUBIANOSA
14.	02017-3470	AUTOMATED WATER-BASED AND ACRYLIC PAINT COLOR MIXER WITH OBJECT COLOR SCANNER	RYAN GABRIEL S. BUNQUIN, ROSELYN R. CAÑETE, ROSE SUZETTE M. LAPITAN & MICHAEL B. VILLAVARDE
15.	02017-3471	AUTOMATED LONGGANISA MAKER	NIÑA GERALYN R. PALAMBIANO, MARY ANDREA L. RICAFRENTA, PAUL ALDRIN P. ROQUE & JEFFERSON T. TONIC
16.	02017-3477	FISH CAGES LIGHTING SYSTEM IN ALAMINOS, PANGASINAN UTILIZING HYDROPOWER, SALTWATER AND SOLAR HYBRID RENEWABLE ENERGY RESOURCES	LAWRENCE M. IGNACIO, KAREN P. LANDOY, DAVE ALLEN B. MOTEA & ARGENE G. RAFAEL



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES COLLEGE OF ENGINEERING COMPUTER ENGINEERING DEPARTMENT

17.	02017-3478	REAL-TIME SEAWATER QUALITY MONITORING SYSTEM PANGASINAN ECO-MARINE DEVELOPMENTAL SYSTEM	CLAUDINE M. ABULOC, KEITH LAURENCE P. CANAYA, JOHN PAUL L. DACULA & AMAR JAYSON F. MEMBRERE
18.	02017-3479	FREE ENERGY GENERATOR OF NEODYMIUM MAGNET FOR CHARGING MOBILE DEVICES	JERVIN L. CARLOS, JARMAINE FAYE A. GEDA, DREXLER CEASAR M. JOSE, IAN KRISTOPHER A. SANTOS, ROLITO L. MAHAGUAY
19.	02017-3480	AUTOMATED GLUTEN-FREE BANANA FLOUR	JOHN ELIJAH B. DE ASIS, NERYL ANNE B. EMPENIO, PIERANGELO P. MARTIN & FRANCESCA B. VILLASANTA
20.	02017-3481	AUTOMATED GLASS WALL CLEANER	ANALIE B. MORENO, MELVIN G. AMPIT, JAN SOCORRO A. POLICARPIO & ALFONZO T. SUAREZ
21.	02017-3482	THE GENERATION OF CATHODE UTILIZING CARBONIZED EGGSHELL IN REPLACEMENT TO MANGANESE DIOXIDE IN BATTERY PRODUCTION	JOHNUEL C. ESPIRITU, AIRA F. RAMEL, APRIL ROSE D. ROSAURO & DANICA ROSE U. SANTOS
22.	02017-3483	THE DEVELOPMENT OF GREENHOUSE SYSTEM FOR CHINESE CABBAGE USING DUAL LAYERED HYDROPONIC GROW-BOX	GAIL HAMMILTON P. CHUA, EICHELEEN V. ESPIRITU, MARK CHRISTIAN A. TAN & JEMAR B. VILLAREAL
23.	02017-3486	BANANA PEEL BURGER PATTY MAKER	DARWIN P. ARANDILLA, ALLISON DWIGHT R. MALTO, JOHNSON T. PEROCHO, ROLLYN JOHN A. ROMERO
24.	02017-3543	AUTOMATED CHARCOAL BRIQUETTING MACHINE UTILIZING PAPER AS NON-RENEWABLE ENERGY SOURCE	CARLOS JEREMY E. ARCADO, MA. CRISTINA R. ESLAO, KRISTOFFER V. SANTIAGO & JOY ANTONETTE G. VILLANUEVA
25.	02017-3544	LIMONENE PRODUCTION MACHINE UTILIZING DALANDAN PEELS AS AN ALTERNATIVE KEROSENE	REINA BIANCA A. GILE, JOSELITO G. GIPIT, JOHN SHERWIN S. RULETE & SHARMAINE F. SAGA
26.	02017-3545	MOSQUITO REPELENT MISTING SYSTEM	JANEA CHRIS S. AGUPITAN, ROLITO L. MAHAGUAY, JESS VINCENT C. REDULA, JOMELLE F. TADURAN & KIMBERLY D. VILLAJUAN
27.	02017-3546	GREYWATER FILTRATION SYSTEM FOR HOUSEHOLD LAUNDRY WITH WATER QUALITY MONITORING	MARICAR C. BAHAYA, DAN ANDRE A. CAMACHO, MELVIN B. RABADON & JOANAH MARIE G. RAMOS
29.	02017-3568	SMARTPHONE MESSAGE CONVERTER TO BRAILLE DISPLAY WITH VOICE SYNTHESIZER	GEANE MARIE KARLA N. FIGUEROA, MAVERICK B. LINGET, MARIE CARISSA B. MANTALA, JENNIFER J. TOLENTINO
30.	02017-3569	PISO VOTING KIOSK WITH DATABASE POWERED BY CLOUD TECHNOLOGY	JOSE RENZO D. BAINCO, BEA AIRA LEE S. CORPUZ, ANGELA ROSE C. DIWA, ROMAR V. SAN JUAN
31.	02017-3575	WATER QUALITY PARAMETER MONITORING AND MAINTENANCE SYSTEM FOR EXTENSIVE TILAPIA CULTURE IN THE BUREAU OF FISHERIES AND AQUATIC RESOURCES-NATIONAL FRESHWATER FISHERIES TECHNOLOGY CENTER	JONEL D. DE GUZMAN, ROLAND REI S.J. ESPELETA, MICAH ERIKA G. LAROZA, JOHN RONALD L. MAGAHIS
32.	02017-3570	THE DEVELOPMENT OF A SOUND FREQUENCY ATTRACT-TO-KILL MOSQUITO DEVICE	CHRIZ C. CABAJES, RON SARTE R. GUARDO, ROI JOSHUA D. TIMOTEO, RICHARD B. VELONZA JR.
33.	02017-3571	THE MOVABLE RAT TRAPPING AND EXTERMINATING SYSTEM	GENEVA B. CUDAL, JEFFERSON A. DANILA, ROEL G. DAYOR JR., RENZEL A. DELOS SANTOS

Prepared by:

Pedrito M. Tenerife Jr.

(02) 8713 5968 | dcoe_chair@gmail.com
RM322 CEA BLDG. NDC COMPOUND,
ANONAS COR. PUREZA STREETS, STA. MESA, MANILA





POLYTECHNIC UNIVERSITY OF THE PHILIPPINES
COLLEGE OF ENGINEERING
COMPUTER ENGINEERING DEPARTMENT

Bachelor of Science in Computer Engineering Copyright 2016

	REGISTRATION NUMBER	THESIS TITLE	AUTHOR/S
1.	02016-79	LIFEJACKET WITH LIGHT EMITTING DIODES (LEDS) POWERED BY SEAWATER	MARY MAE T. CUEVA, JEFF ANDREW M. LOYOLA, MIKKAELA G. SERAS & DANICA C. VILLAR
2.	02016-78	UTILIZATION OF BAGASSE INTO A VENEERED PARTICLEBOARD IN COLD PRESS SETTING	JOHN CARLO M. AGPOON, CELINE G. BABLES, CAEZAR AARON A. DOTE, FEBBMARK A. LLAMES & ARVIN DG. SANTOS
3.	02016-36	BITLIT: A MODIFIED LOCKSET SECURITY SYSTEM THROUGH ILLUMINATION	SONNY BOY S. DE CASTRO, INAH CRIZEL A. EVANGELISTA, JOHN PAOLO S. FABRA, CHRISTOPER D. PINILI & LADY DIANNE V. SULABO
4.	02016-33	MICROCONTROLLER-BASED ULTRASONIC EXTRACTION OF OIL FROM A BIOFUEL SOURCE-JATROPHA CURCAS "TUBA TUBA" PLANT	CHELZIE MAE D. DE LEON, RELOR G. FALLA, ALVIN S. FRANSISCO, JOHN DAVID V. FRILLES & EUNICE P. GERONA
5.	02016-35	AN MCU BASED UNDERWATER COMMUNICATION DEVICE USING LASER MEDIUM	JEMIMA ANN E. ADO, IAN CEDRIC N. ARAGOZA, MARK JOHN A. POLO, JANINE E. SIMBULAN & NADINE MAE E. SUAREZ

Prepared by:


Pedro M. Tenerife Jr.



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES COLLEGE OF ENGINEERING **COMPUTER ENGINEERING DEPARTMENT**

Bachelor of Science in Computer Engineering Copyright 2015

	REGISTRATION NUMBER	THESIS TITLE	AUTHOR/S
1.	O2015-807	MICROCONTROLLER UNIT BASED WIRELESS BIKE TURNING SIGNAL VEST IN BICYCLE USING BLUETOOTH	KEVIN L. CANDAVA, RAPH S. DUMAPE, MARK KELVIN S. MOJAGAN & HERSON C. VILLEGAS
2.	O2015-819	RAIN DROPS VIBRATION SENSING ROOF WITH SOLAR PANEL AS AN DC SOURCE	CRIS NOEL M. DE RAMOS, JONCARLO R. DAIZ, RUBY T. EUSEBIO & JO-ANNA MICHELLE LUMIBAO
3.	O2015-1060	WATER QUALITY MONITORING SYSTEM OF PASIG RIVER	ABRAHAM JOHN T. AQUINO, EDCEL B. ARTIFICIO, PATRICIA MARIE B. CABRAL & JAUREL LEANDRO T. VILLAMOR
4.	O2015-1443	SALTWATER-POWERED EMERGENCY LIGHT	JOHN ALLEN P. AZARES, RODEN M. DECOLONGON, JOH CARLO EDERIO & JOHN MICHAEL V. PAREDES
5.	O2015-1370	AUTOMATED HOSPITAL BED FOR ORTHOPEDIC HOSPITAL AND HOME BOUND TREATMENT	MARK D. ALCANTARA, JEVI I. AMOR, KELVIN V. OPEDA & JULIUS PHILIP C. PONCE
6.	O2015-1451	VIBRATIONS ENERGY HARVESTING AS SOURCE FOR MOTION ACTIVATED LIGTH	MARK ANTHONY N. DABAN, MARK RYAN C. SALENTES, REGINE CLARISSE D. DEL ROSARIO & ANA EDEZA P. RANGASAJO
7.	O2015-1444	DEVELOPMENT OF A MICROCONTROLLER-BASED SMOKE BELCHING MONITORING SYSTEM FOR PUBLIC UTILITY VEHICLES	NELSON C. RODELAS
8.	O2015-1461	PORTABLE WATER FROM AUTOMATED AIR CONVERTER SYSTEM FOR RURAL AREAS AND EVACUATION CENTERS	JOSE RONALD M. HERNANDEZ, JUSTINE M. OLIVEROS, MAARIONE LOU-AU S. MANAOIS & JOHN PATRICK C. REYES
9.	O2015-1462	REMOTELY CONTROLLED ANDROID BASED LED MATRIX DISPLAY WITH ANIMATION FEATURE	MICHAEL ANDREW S. BANIGOOS, JOHN LESTER A. ROMANO, MARIA CRISTINA ESPIRITU & MARVIN LEE P. MATIGANAS
10.	O2015-1477	PRINTING VENDING MACHINE THROUGH FLASH DRIVE, MEMORY CARD AND BLUEOOTH WITH NETWORK BASED MAINTENANCE	JOHN MICHAEL G. ABAINZA, JOHN CARLO M. BAMBO, CHRISTELLE B. MANGALINDA & BRIAN S. PUNZALAN
11.	O2015-806	MICROCONTROLLER UNIT BASED SOLAR POWERED CHARGING STATION IN COLLEGE OF ENGINEERING AND ARCHITECHTURE	PAUL ZEDRIC S. ARCILLA, CAMILLE L. CHUA, FRANCIS KEVIN P. ESTRADA, & ROBIN JAY B. MEDINA
12.	O2015-804	SOLAR ENERGY HARVESTING BAG WITH WIRELESS CHARGING TECHNOLOGY	JASPER. GUERRERO, MARLO ANGELO S. KRISSEL C. SIBAYAN & ARJAY T. TORRELIZA

Prepared by:


Pedrito M. Tenerife Jr.



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES **COLLEGE OF ENGINEERING** **COMPUTER ENGINEERING DEPARTMENT**

Bachelor of Science in Computer Engineering Copyright 2014

	REGISTRATION NUMBER	THESIS TITLE	AUTHOR/S
1.	O2014-1570	TEXT MESSAGE CONVERTER PERIPHERAL DEVICE FOR THE BLIND	ADRIAN JOSEPH B. BENAVENTE, JULIUS S. CANSINO, RAQUEL B. MAGUSIB, XYRUS B. MANONGSONG & JOHN MARK D. ROSETE
2.	O2014-1439	TAP WATER FILTRATION SYSTEM USING CERAMIC FILTRATION AND UV LIGHT IN PUP CEA	ARGEL A. ASIDERA, CHRISTOPHER R. BOCTON, NORMAN DAVID M. DELOS REYES, MYLES CHARMAIGNE I. GEVERO, DYAN ANGELICA. MESA & ANTHONY Y. VELASCO
3.	O2014-1310	PUP OFFICE OF ADMISSION SERVICES QUEUING AND MESSAGE BOARD	MENILTO JEDIDIAH AMMI I. SENA JR. & JESUS PATERNO S. ARROYO
4.	O2014-1311	BUILT-IN SHOPPING CART ITEM PRICE WITH BUDGET CALCULATION	MARK ANGELO A. LAGGUI, BILL VINCENT F. MACION, AIRISH M. LAS PIÑAS, MARJORIE M. SANTIAGO & ANTONIO Y. VELASCO
5.	O2014-1374	ROOM SCHEDULING SYSTEM USING RFID READER FOR COMPUTER ENGINEERING LABORATORY	JAYZEL T. ARDIENTE, JULIUS S. CANSINO, ROXANE I. DAPITAN, JEWELYN B. PICAR AND SALVE REGINA G. SANTOS
6.	O2014-1292	SALTED EGG MAKER	JAYSON C. MUYOT, MA. SARAH JANE L. PAGUIRIGAN, DANIELLE P. RONQUILLO, HAZEL JOY N. TABISOLA AND PEDRITO M. TENERIFE JR.
7.	O2014-1326	ARDUINO-CONTROLLED MASSAGE WITH CHAIR TRANSCUTEANUS ELECTRICAL NERVE STIMULATOR (TENS) MACHINE	LYSANDER B. ARBIS, CHARLES KENT T. LOPE, ABRAHAM M. MACAPAGAL, JOEMARIE M. TEODORO & FLORINDA H. OQUINDO
8.	O2014-1423	AUTOMATED WATER HYACINTH STALKER DRYER AND FLATTENER FOR MAKING HANDICRAFT	RIZALLY L. ABIERTAS, LEE CHRISTIAN V. LOPEZ, ROS ANN M. RIVERA, JOHN DOMINIC U. SALVADOR & FERDINAND O. NATIVIDAD
9.	O2014-1291	AUTOMATED FISH DRYER AND SMOKER MACHINE	JEUS CHRISTIAN C. COQUIA, JUAN PAOLO B. ENRIQUEZ, FERLY P. PALISOC, JERECHO S. SARTO AND PEDRITO M. TENERIFE
10.	O2014-969	AUTOMATED ORGANIC WASTE PROCESSOR FOR FERTILIZER PRODUCTION IN PUP MAIN CAMPUS	KEVIN F. ABESTILLA, MYRISH Q. BANAAG, HYACINTH B. BATHAN, JADE CARLO N. DE LARA & FERNANDO O. NATIVIDAD
11.	O2014-978	VIDEO-BASED EARLY WARNING DEVICE FOR COASTAL AREAS WITH WATER LEVEL INDICATOR	RODOLFO P. TALAN RAYY LEONARD L. LOYOLA, HANZEL T. PATRIOCIO, ALEXANDER MARK S. SANGUELAS & RALPH DENNIS P. VALDEZ
12.	O2014-968	TEMPERATURE AND SOIL HUMIDITY MONITORING SYSTEM FOR INNOVATION OF VERMICOMPOSTING IN PUP MAIN CAMPUS	BRIAN-DEE G. ARELLANO, KIM C. MIRANDA, FERDINAND O. NATIVIDAD, JOSEPH S. VELASCO & JANSEN DAREN C. ZUMEL
13.	O2014-964	MUSHROOM SUBSTRATE MIXER AND DISPENSER FOR MUSHROOM PRODUCTION	LOVELY ANN R. CASTILLO, AUBREY A. MENDZA, GAN JAH O. NAVARRO, DEXTER NIÑO B. RAPSING & ANTONIO Y. VELASCO
14.	O2014-974	PUP FIRST AID GUIDE ANDROID APPLICATION	JULIUS S. CANSINO, KAREN JOY S. LAGUNSAID & HANS JERIC M. MACAPAGAL
15.	O2014-976	FACE TRACKING AND MOTION DETECTION SURVEILLANCE SYSTEM WITH SMS NOTIFICATION TO HOUSEHOLD-OWNERS	KIMBERLY ANNE V. AMANDY, MA. CLARISSA B. DUEA, XYRENE B. LOTA, JOANNA MARIE M. MALUNDA, RODOLFO P. TALAN & ALLAN B. VERZO



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES **COLLEGE OF ENGINEERING** **COMPUTER ENGINEERING DEPARTMENT**

16.	O2014-973	SUN TRACKER FOR EFFICIENT SOLAR POWER COLLECTION	RONALD D. FERNANDO, PATRICK ANGELO K. ANGELES, NORIEL O. ESCARO, KHRISTAL T. SAN DIEGO & KRISTIN JOY D.I. VERGARA
17.	O2014-972	HUMAN RESOURCE INFORMATION SYSTEM	RONALD D. FERNANDO, MARIA LUISA B. DALAFU & MARCH EARVIN T. TOLENTINO
18.	O2014-977	REMOTE CONTROLLED LIQUID CRYSTAL DISPLAY PROJECTOR	RODOLFO P. TALAN, IYA KARLA E. BALUTAN, PATRICK LUIGI R. CELENDONIO, ZALDEAH THERESE S. CRUZ, VANESSA E. ESTRADA
19.	O2014-970	CLOUD-BASED PRODUCTIVITY TOOL	NAILA RENZ I. OBNIAL, MARK JOSEPH A. PENARANDA & RONALD D. FERNANDO
20.	O2014-895	SCHEDULED ULTRASONIC CONTROLLED FOR COMMON RICE PEST	REMEDIOS G. ADO, ADRIANNE O. BALAGUER, JUAN MIGUEL E. CALDERON, JEFERSON B. INOCENCIO & JOHN ROWBERT L. JAVIER
21.	O2014-902	RAINWATER HARVESTER WITH ELECTRIC WATER PURIFIER USING CERAMIC FILTRATION AND ULTRAVIOLET LIGHT WITH PH SENSOR	REMEDIOS G. ADO, ALDREN A. ALANGCAO, VON ADIN A. BAGULBAGUL, DESSA S. BULFA & SARAH JANE P. CLAVIO
22.	O2014-900	ARMS: AUGMENTED REALITY MARKETING SOLUTIONS DESIGNED FOR INTERNATIONAL MARKETING SOLUTIONS FOR ENTREPRENEURS' ENTERPRISE (IMSEE) USING ANDROID TECHNOLOGY	REMEDIOS G. ADO, JOHN-JOHN B. ALVIAR & JENNEVIE E. LUNA
23.	O2014-903	CLIENT QUEUING SERVICE SYSTEM WITH AUTOMATED TICKET GENERATOR AND SMS UPDATE SUPPORT	REMEDIOS G. ADO, SANTINIE PAULO U. ABELLA, KENNETH M. BALOBALO, JOHN MARK S. EUSEBIO & PAUL JOHN V. ROVIRA
24.	O2014-898	MOBILE OPERATED AQUAPONIC SYSTEM: WATER CIRCULATION BETWEEN HOUSEHOLD VEGETATION AND FISH FARMING	REMEDIOS G. ADO, AARON KEVIN V. ESPALLARDO, JEMSON P. LACHICA, DARYL JOHN C. MANGALINDAN & CARRIE ANNE MARHENELLE T. REYES
25.	O2014-931	WIFI HOTSPOT VENDING MACHINE	CHRISTIAN DARREL E. BARTOLATA, DANIEL BRIANE V. CALDA, RONNIE C. PEDALES JR., RENZ MICHAEL M. RICAFFRENTE & JULIUS S. CANSINO
26.	O2014-957	AUTOMATED MONITORING OF ELECTRIC ENERGY CONSUMPTION THROUGH WIRELESS TECHNOLOGY FOR POLYTECHNIC UNIVERSITY OF THE PHILIPPINES-SAMPAGUITA BUILDING	REMAR B. COLAMBO, CHRISTIAN REY M. ERANDIO, JAMELYN M. SANTOS, JERTRUDE FIDES O. SEGUISA & ANTONIO Y. VELASCO
27.	O2014-932	LAWN MOWER WITH OBSTACLE DETECTOR AND SOUND ALARM DEVICE FOR PUP MAIN CAMPUS	PAOLO JONAS V. ALAN, FREDERICK CARL D. GUTIERREZ, FERDINAND O. NATIVIDAD, ABRAHAM L. PALINO JR. & BERNIS S. RAMIREZ
28.	O2014-896	E-PRECINCT: ELECTRONIC ELECTION MODULE USING BIOMETRICS	REMEDIOS G. ADO, DARREN P. ASTORIAS & ANNE MARY B. DOLOSA
29.	O2014-959	ELECTRONICALLY-CONTROLLED GATE FOR P.U.P. COLLEGE OF ENGINEERING	ARR BELREY L. DOMINGO, DEVINA C. MANTILLA, GIRLIE A. MONTECALVO, MARIZ B. PAGADOR & RAFAEL R. OQUINDO
30.	O2014-930	FINGER-MOTION STEERING WHEELCHAIR WITH VOICE COMMAND FEATURE	ANNA ALTHEA F. ABAINZA, JULIUS S. CANSINO, JULIUS JOHN PAUL P. CANTOS, ANDREA D. PATAUEG & ANTHONY CARMINE D. TAGAYON
31.	O2014-897	MOBILE EMERGENCY RESPONSE APPLICATION USING GEOLOCATION FOR MAKATI COMMAND CENTER	REMEDIOS G. ADO, JETHRO B. DE GUZMAN & RITZ CARLO C. DE GUZMAN
32.	O2014-899	SOLAR POWERED AQUAPONIC (SAP) WITH MOBILE APPLICATION: AN AQUACULTURES SYSTEM WITH HYDROPONICS IN A SYMBIOTIC ENVIRONMENT FOR FASTER PRODUCTION OF VEGETABLES	REMEDIOS G. ADO, MARK KEVIN C. BRIN, GERALDINE L. GUZON & ALFRED A. JUEN



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES
COLLEGE OF ENGINEERING
COMPUTER ENGINEERING DEPARTMENT

33.	02014-937	FAST CAB RESERVATION SYSTEM	AILENE JOY T. CALINGASAN, LEA MAE P. NATOC & RAFAEL R. OQUINDO
34.	02014-955	THE DEVELOPMENT OF ELECTROMECHANICAL AND SOLAR POWERED PEDICAB FOR PUP-MATERIALS RECOVERY FACILITY (MRF)	JENLYN S. LABRADOR, IAN M. LUMBANG, FERDINAND O. NATIVIDAD, ARMANDO M. NAVARRO & GREGGY FRANZ I. PEREZ
35.	02014-938	VEHICLE ROUTE TRACKER	MARK ARIS M. ALMASE, REYNAN P. CASTRO & RAFAEL R. OQUINDO
36.	02014-939	VIRTUAL BUSINESS DASHBOARD USING CLOUD TECHNOLOGY	JENA MARIE A. BUENVIAJE, RAFAEL R. OQUINDO & DANA ANGELICA N. ROMERO
37.	02014-940	PUP COE INFORMATION AND COMMUNITY WEBSITE	JULIUS S. CANSINO, MARK ADRIAN B. BARRAMEDA & MICHAEL JORDAN D. PARUNGAO
38.	02014-901	ROAD FLOOD SENSOR WITH WEB AND MOBILE APPLICATION	REMEDIOS G. ADO, JOHNVER B. BAUTISTA, KIM CARLA B. LLENO, KATRINA HAZEL R. MALAGDAY & MARK ANTHONY D. MUYA
39.	02014-934	ANDROID-APP CONTROLLED AUTOMATED COCKTAIL MIXING SYSTEM	JAYSEN A. GERONIMO, JEREMY PAUL M. HERRERA, MELVIN A. LUMAWIG, NEIL JERVY R. PALAMBIANO & FLORINDA H. OQUINDO
40.	02014-936	WIND-BASED POWER BANK FOR MOBILE DEVICES	FLORINDA H. OQUINDO, ANGELICO D. AVANCE, JEASEL A. CLARITO, JOANNE S. MANUEL & MARIA EMMANUELLE C. SANTOS
41.	02014-929	MICROCONTROLLER-BASED BIOPLASTIC PRODUCTION MACHINE	LOURAINNE GRACE M. ACUÑA, JASMINE A. FRANCO, KERUBIN B. PANGILINAN, ROSELLE V. PALERMO, RODOLFO P. TALAN & MAY ANN N. VILLA

Prepared by


 Pedro M. Tenerife Jr.



**POLYTECHNIC UNIVERSITY OF THE PHILIPPINES
COLLEGE OF ENGINEERING
COMPUTER ENGINEERING DEPARTMENT**

Bachelor of Science in Computer Engineering Copyright 2013

	REGISTRATION NUMBER	THESIS TITLE	AUTHOR/S
1.	O2013-588	PC BASED MESSAGING SYSTEM WITH DISPLAY PANEL FOR GUARDIANS OF CHRIST THE KING COLLEGE OF ANGONO, INC.	SONNY S. AURELLANO, MELDY C. GARCIA, CHRISTOPHER C. MARQUEZ, JHENA MARIE G. SANTOS
2.	O2013-587	FLOOD LEVEL MONITORING DEVICE WITH SHORT MESSAGE SERVICES	BERNADETTE KRISTINE C. AQUINO, KENNETH B. JANDOC, JOSEPH CRISTINA R. SERRANO, JEROME M. TAMAYOSA
3.	O2013-589	ANNOUNCEMENT SYSTEM FOR COLLEGE OF ENGINEERING, ARCHITECTURE AND FINE ARTS	JEREMY ARRIANNE B. ABEJAR, JERUM P. GALANG, JOELBOIE B. GAMAYON, MARVIN ANTHONY E. SANTOS, FLORINDA H. OQUINDO
4.	O2013-590	AUTOMATED TENNIS BALL PICKER	JONI CARLO L. IGNACIO, MELROSE T. PAGLINGAYEN, MIA CLARISSA A. PASCUAL, JONALICE B. RAMOS, NORMAN DAVID F. DELOS REYES, FLORINDA H. OQUINDO
5.	O2013-586	GROUND WATER TREATMENT USING BIO-SAND FILTER	REN-MAR L. BASCO, WALTER D. BERNARDO JR., ALEXIS ANN DALAGAN, MARK S. FLORES, FLORINDA H. OQUINDO
6.	O2013-585	AC SUPPLY WITH DUAL CHARGING CAPABILITIES	IRENE KAYE S. BANDILLA, RAYMART O. LIBIRAN, DEBRIZA R. LOON, JOANE KATHLEEN L. MACALINDOL, NORMAN DAVID F. DELOS REYES, FLORINDA H. OQUINDO
7.	O2013-653	MOBILE GLOVE FOR PERSONS WITH DISABILITY	HAROLD E. CALAYAN, REYNALYN S. CAÑAS, GERALDINE M. SOLPICO, GINO P. SUSON RODOLFO P. TALAN
8.	O2013-656	AUTOMATED RAIN WATER HARVESTING SYSTEM WITH BIOSAND FILTER	RANDI G. CABUNGAN, HAZEL DENISE B. CULILI, RODOLFO P. TALAN, LERVIN CHRISTIAN A. ESTACIO, DIANE ALLEN R. RIOFLORIDO, RAFAEL R. OQUINDO
9.	O2013-654	RAINWATER TESTER WITH ELECTRIC WATER PURIFIER USING CERAMIC FILTRATION AND ULTRAVIOLET LIGHT	TIMOTHY JOHN P. AGUILAR, BRIDGETTE N. BANCOLETA, KRISTIAN JAY G. PE BENITO, RHENCE L. SAPINOSA, PAUL M. CABACUNGA, RODOLFO P. TALAN, RAFAEL OQUINDO
10.	O2013-694	MMDA REAL TIME ONLINE TRAFFIC COUNT MONITORING SYSTEM	JOSEPH CHRISTOPHER SJ FELIPE, JERENIEL S. ALCOPA, ROBERT JOHN D. DICHOS, RENZ MARVIN D. PATRIARCA
11.	O2013-803	ENHANCED VOICE BASED CANE FOR THE BLIND WITH ANTI-LOST FEATURE FOR THE RESOURCES OF THE BLIND, INC.	JOHN ARVIN V. ABOQUE, SHIELA MARIE R. CABANGAN, NICA KAREN C MAYORES, FERNANDO O. NATIVIDAD
12.	O2013-802	AUTOMATED HEATER AND FEEDER IN A CHEEK BROODER	ALDRIN G. AFABLE, LOVELY LYNNE A. APACIBLE, GIAN CARLO G. BAÑEZ, HANNA MARCIEL C. BRIN, RODOLFO TALAN, RAFAEL R. OQUINDO

Prepared by:


Pedrito M. Tenerife Jr.



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES
COLLEGE OF ENGINEERING
COMPUTER ENGINEERING DEPARTMENT

Republic of the Philippines
National Commission For Culture And The Arts
NATIONAL LIBRARY OF THE PHILIPPINES
Manila



CERTIFICATE OF COPYRIGHT REGISTRATION AND DEPOSIT

Name of Copyright Owner : JOANA MARIE L. MANOY, JONALYN E. SABANGAN,
KAREN JANE M. SAN AGUSTIN, LIEZEL L. SERAFICO & PEDRITO M. TENERIFE JR.

Address: PUP, NDC Compound, Anonas St., Sta. Mesa Manila

Name of Author JOANA MARIE L. MANOY, JONALYN E. SABANGAN,
KAREN JANE M. SAN AGUSTIN, LIEZEL L. SERAFICO & PEDRITO M. TENERIFE JR.

Nationality: Filipino

Publisher: _____

Assignee: _____ Proprietor: _____ Author: X

Title of Work: OBSTACLE AVOIDANCE ASSISTANCE GLOVE FOR THE RESOURCES
FOR THE BLIND INC.

Class of Work: O Published : _____ Unpublished: X

Date of Creation: April 20, 2013 Date of Publication: _____

Date Registered/Deposited: May 17, 2013 Registration No. **O2013-696**

Term of Protection: Lifetime of the author and for fifty (50) years after his/her death.

Issued this 30th day of MAY, 2013, in the City of Manila, Philippines.



ATTESTED:

Michelle A. Flor
MICHELLE A. FLOR
Copyright Examiner

Antonio M. Santos
ANTONIO M. SANTOS
Director



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES
COLLEGE OF ENGINEERING
COMPUTER ENGINEERING DEPARTMENT

PC IIP.1

Lifted from the University Research & Development Manual (pp. 44-46).....

Chapter 7

PROTECTION OF INTELLECTUAL PROPERTY

The University is committed to providing an environment that supports the research and teaching activities of its faculty, student and staff. It recognize its obligation to transfer new property, the rights and obligation of the University, its faculty, administrative personnel and students, and other third parties shall be governed by the revised PUP Intellectual Property (IP) Policy, pertinent provision of R.A. 8292 (higher Education Modernization Act of 1997), R.A. 10055 (Philippine Technology Transfer Act of 2009) and R.A. 8293 (Intellectual Property Code of the Philippines). The University IP Policy is intended to promote and encourage excellence and innovation in scholarly research and teaching by identifying and protecting the rights of the University, its faculty, administrative staff, and student.

To the extent permitted by this policy, individuals may enter into contract with the University to address issues regarding intellectual property, in which case the contract entered into a manner consistent with the policy.

Protection for Copyright

All works referred in Article 4 Section 1 of the University Intellectual Property Policy such as manuscript of research outputs, research journals, theses, dissertations, etc. must be applied for copyright protection.

Protection for Patent and other Intellectual Property Rights

All patentable inventions referred in Article 5 Section 1 of the University Intellectual Property Policy must be applied for patent as early as possible for protection. Likewise, all utility models, industrial designs and the like shall also be registered as soon as possible. The "first to file rule" stated in the Intellectual Property Code of the Philippines should be taken in consideration of protecting all inventions of the University.

All fees related to intellectual property rights under the name of PUP shall be borne by the University.

Nondisclosure Agreement

In case where research is patentable, researchers and all persons involved should sign a nondisclosure agreement in order to prevent premature disclosure until patent applications has been filed. It is also advised that patent application should be filed first before any paper presentation, publication or exhibit is made.

All patenting and copyrighting activities and protection of other IP-related rights should be coordinated with the Intellectual Property management Office (IPMO).

Procedure for Copyright Application

1. Secure the Copyright Application Form from the Intellectual property Management Office (IPMO). The form can also be downloaded from the PUP website through the IPMO link. (See Appendix G-1)
2. Fill-out the Application Form. For these/dissertations and other work authored by students which are being submitted to the University in partial fulfillment of any course requirements, the authors must accomplish/sign the affidavit of Copyright Co-ownership with the Polytechnic University of the Philippines. Copy of template of this Affidavit can also be obtained from the IPMO or through the PUP website. (See Appendices G-2 and G-3)
3. Have the accomplishment Application Form and Affidavit on Copyright Co-ownership duly notarized.
4. Proceed to the Accounting Office for the order of Payment.
5. Pay the Copyright application fee at the Cashier's Office.



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES
COLLEGE OF ENGINEERING
COMPUTER ENGINEERING DEPARTMENT

National Commission For Culture And Arts
NATIONAL LIBRARY OF THE PHILIPPINES
Manila



CERTIFICATE OF COPYRIGHT REGISTRATION AND DEPOSIT

Name of Copyright Owner : CHARLEMAGNE R. ALAMON, JERICO D. CARRILLO,
NILO H. GASPAR, MICHAEL S. MAGCALAS AND PEDRITO M. TENERIFE JR.

Address: PUP, NDC Compound, Anonas St., Sta. Mesa, Manila

Name of Author CHARLEMAGNE R. ALAMON, JERICO D. CARRILLO,
NILO H. GASPAR, MICHAEL S. MAGCALAS AND PEDRITO M. TENERIFE JR.

Nationality: Filipino

Publisher: _____

Assignee: _____ Proprietor: _____ Author: X

Title of Work: ARDUINO-BASED RAINWATER HARVESTING SYSTEM FOR
PONCIANO BERNARDO HIGH SCHOOL

Class of Work: O Published : _____ Unpublished: X

Date of Creation: March 11, 2013 Date of Publication: _____

Date Registered/Deposited: May 3, 2013 Registration No. **O2013-655**

Term of Protection: Lifetime of the author and for fifty (50) years after his/her death.

Issued this 29th day of MAY, 2013, in the City of Manila, Philippines.



ATTESTED:

Antonio M. Santos
ANTONIO M. SANTOS
Director

Michelle A. Flor
MICHELLE A. FLOR
Copyright Examiner



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES
COLLEGE OF ENGINEERING
COMPUTER ENGINEERING DEPARTMENT

Republic of the Philippines
National Commission For Culture And The Arts
NATIONAL LIBRARY OF THE PHILIPPINES
Manila



CERTIFICATE OF COPYRIGHT REGISTRATION AND DEPOSIT

Name of Copyright Owner : ISRAEL C. ALARILLA, HANNA JOY E. ALEJANDRO,
JOEL V. DELGADO, JOANNA MARIE C. GALLENERA AND PEDRITO M. TENERIFE JR.
Address: PUP, NDC Compound, Anonas St., Sta. Mesa, Manila

Name of Author ISRAEL C. ALARILLA, HANNA JOY E. ALEJANDRO,
JOEL V. DELGADO, JOANNA MARIE C. GALLENERA AND PEDRITO M. TENERIFE JR.

Nationality: Filipino

Publisher: _____

Assignee: _____ Proprietor: _____ Author: X

Title of Work: MEAT GRILLER ANALYZER

Class of Work: O Published : _____ Unpublished: X

Date of Creation: April 18, 2013 Date of Publication: _____

Date Registered/Deposited: May 3, 2013 Registration No. **O2013-657**

Term of Protection: Lifetime of the author and for fifty (50) years after his/her death.

Issued this 29th day of MAY, 2013, in the City of Manila, Philippines.



ATTESTED:

Antonio M. Santos
ANTONIO M. SANTOS
Director

Michelle A. Flor
MICHELLE A. FLOR
Copyright Examiner



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES
COLLEGE OF ENGINEERING
COMPUTER ENGINEERING DEPARTMENT

Republic of the Philippines
National Commission For Culture And The Arts
NATIONAL LIBRARY OF THE PHILIPPINES
Manila



CERTIFICATE OF COPYRIGHT REGISTRATION AND DEPOSIT

Name of Copyright Owner : JOHN REY M. CELLONA, JONATHAN DAVID R. LAT,
JEFFRY B. QUIAMBAO, LESTER M. SILVESTRE AND PEDRITO M. TENERIFE, JR.
Address: PUP, NDC Compound, Anonas St., Sta. Mesa, Manila
Name of Author JOHN REY M. CELLONA, JONATHAN DAVID R. LAT,
JEFFRY B. QUIAMBAO, LESTER M. SILVESTRE AND PEDRITO M. TENERIFE, JR.
Nationality: Filipino
Publisher: _____
Assignee: _____ Proprietor: _____ Author: X
Title of Work: AUTOMATED FEEDING AND CLEANING SYSTEM FOR SWINE RAISING
Class of Work: 0 Published : _____ Unpublished: X
Date of Creation: March 15, 2013 Date of Publication: _____
Date Registered/Deposited: June 25, 2013 Registration No. **02013-804**
Term of Protection: Lifetime of the author and for fifty (50) years after his/her death.

Issued this 3rd day of JULY, 2013, in the City of Manila, Philippines.



ATTESTED:

Michelle A. Flor
MICHELLE A. FLOR
Copyright Examiner

Antonio M. Santos
ANTONIO M. SANTOS
Director



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES
COLLEGE OF ENGINEERING
COMPUTER ENGINEERING DEPARTMENT

Republic of the Philippines
National Commission For Culture And The Arts
NATIONAL LIBRARY OF THE PHILIPPINES
Manila



CERTIFICATE OF COPYRIGHT REGISTRATION AND DEPOSIT

Name of Copyright Owner : POLYTECHNIC UNIVERSITY OF THE PHILIPPINES,
AND FERDINAND O. NATIVIDAD

Address: PUP, Sta. Mesa, Manila

Name of Author FERDINAND O. NATIVIDAD

Nationality: Filipino

Publisher: _____

Assignee: _____ Proprietor: _____ Author: X

Title of Work: COMPUTER ENGINEERING LABORATORY EQUIPMENT
RESERVATION AND MONITORING SYSTEM WITH MOBILE APPLICATION

Class of Work: O Published : _____ Unpublished: X

Date of Creation: April 30, 2015 Date of Publication: _____

Date Registered/Deposited: June 4, 2015 Registration No. **O2015-1865**

Term of Protection: _____ Lifetime of the author and for fifty (50) years after his/her death.

Issued this 24th day of AUGUST, 2015, in the City of Manila, Philippines.



ATTESTED:


MICHELLE A. FLOR
Copyright Examiner


ANTONIO M. SANTOS
Director



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES
COLLEGE OF ENGINEERING
COMPUTER ENGINEERING DEPARTMENT

Republic of the Philippines
National Commission For Culture And The Arts
NATIONAL LIBRARY OF THE PHILIPPINES
Manila



CERTIFICATE OF COPYRIGHT REGISTRATION AND DEPOSIT

Name of Copyright Owner : POLYTECHNIC UNIVERSITY OF THE PHILIPPINES,
AND REMEDIOS G. ADO

Address: PUP, Sta. Mesa, Manila

Name of Author REMEDIOS G. ADO

Nationality: Filipino

Publisher: _____

Assignee: _____ Proprietor: _____ Author: X

Title of Work: EVALUATION OF SMART WIRELESS ENGINEERING EDUCATION PROGRAM (SWEEP): BASIS
FOR A PROPOSED INTEGRATED MODEL OF COLLABORATION BETWEEN INDUSTRY AND ACADEME

Class of Work: O Published : _____ Unpublished: X

Date of Creation: May 29, 2015 Date of Publication: _____

Date Registered/Deposited: June 4, 2015 Registration No. **O2015-1981**

Term of Protection: _____ Lifetime of the author and for fifty (50) years after his/her death, _____

Issued this 9th day of SEPTEMBER, 2015, in the City of Manila, Philippines.



ATTESTED:

Michelle A. Flor
MICHELLE A. FLOR
Copyright Examiner

Antonio M. Santos
ANTONIO M. SANTOS
Director



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES
COLLEGE OF ENGINEERING
COMPUTER ENGINEERING DEPARTMENT

6. Submit to IPMO triplicate copies of the notarized application form and affidavit of Copyright Co-ownership, and the document/s applied for copyright (hard or soft copy), together with the official receipt.
7. Return to IPMO triplicate specified date to get the Certificate of Copyright Registration to be issued by the National Library of the Philippines.

Procedure for Patent Application

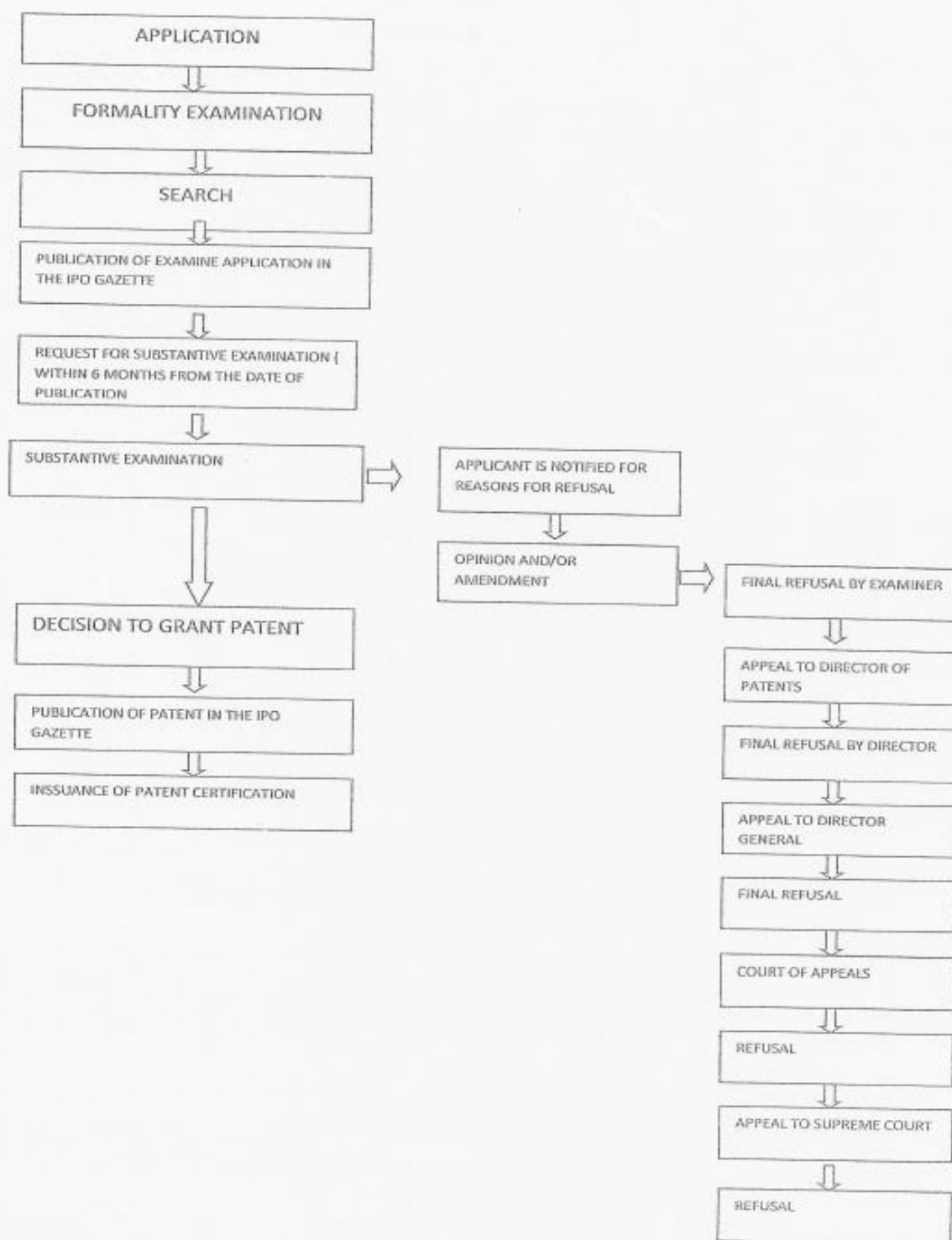
1. Inventor/creator must write a letter to OVPRED about his/her new invention.
2. If found valuable, OVPRED request IPMO for the evaluation of preventability and potential commercial success of the invention.
3. Inventors talk to IPMO for patentability and fill up the Invention Disclosure Form (See Appendix G-4 Invention Disclosure Form)
4. The Innovation and Technology Support Office (ITSO) conducts patent search to check for novelty. Check if it involves inventive step and verify for its industrial applicability.
5. The Center for Technology Transfer and Enterprise Developments (CTTED) conducts preliminary study for commercialization.
6. If the invention is found patentable and has potential commercial success, both the ITSO and the CTTED shall provide their recommendations to the Director of IPMO, who will in turn endorse the invention to OVPREPD for the application for patent.
7. The inventor/creator, with the assistance of ITSO will fill-up the Request for the Grant of Patent Form (See Appendix G-5 Request for Grant of Patent Form)
8. The inventor/creator together with ITSO will draft the Description of the Invention (includes Specifications and claims) and Drawings necessary for the invention (if any).
9. ITSO will file the application to the Intellectual Property Office of the Philippines.

(please refer to the flowchart presented in the succeeding pages)



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES
COLLEGE OF ENGINEERING
COMPUTER ENGINEERING DEPARTMENT

The flowchart (Figure 3) below shows the procedures from filing to grant/refusal of patent application at the Intellectual Property of the Philippines.





POLYTECHNIC UNIVERSITY OF THE PHILIPPINES
COLLEGE OF ENGINEERING
COMPUTER ENGINEERING DEPARTMENT

I.10. The institution ensures that:

I.10.2. faculty and students observe research ethics to avoid malpractices like plagiarism, fabrication of data, etc.



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES
COLLEGE OF ENGINEERING
COMPUTER ENGINEERING DEPARTMENT

PC 10.2



Polytechnic University of the Philippines
Office of the Vice President for Research, Extension, Planning and Development

UNIVERSITY RESEARCH ETHICS

Introduction

Consistent with the vision, mission and goals of the Polytechnic University of the Philippines, this University Research Ethics is a policy committed to the principles of honesty, integrity, and collegiality and, overall, to fair play. This policy requires all staff and students engaged in research to observe and maintain the highest standards of rigour and integrity in the conduct of research. It also provides a framework for the supervision and monitoring of all research throughout the University and requires that all researchers adhere to all applicable provisions and Government policies and guidelines in carrying out their research.

This Policy applies to all individuals, students, faculty and staff, who conduct research at the Polytechnic University of the Philippines. The term "research" pertains to all forms of academic or scholarly works conducted by University staff and students and by personnel who utilize University facilities for the creation, dissemination, and publication of scholarly works. These works may be funded/assisted or unfunded as in the case of theses submitted in partial fulfillment of an academic degree.

All research projects should be duly managed and conducted with utmost consideration for all University policies on research ethics, including policies set out in existing university regulations or guidelines on research integrity, as well as patents and copyright policies, and other pertinent regulations regarding conflicts of interest in propriety as well as guidelines for research involving human and animal subjects.

This Policy also recognizes that many academic units will require more specific provisions than the guidelines supplied herein.

General Ethical Standards

A. Academic and Scientific Integrity. Strict compliance with these guidelines shall be enforced to ensure that every researcher at all times in the research process will avoid committing serious academic and professional deviations that constitute research misconduct.

1. Research misconduct is defined as fabrication, falsification, and/or plagiarism, including misrepresentation of credentials, in proposing and carrying out or reviewing research.

Page 1 of 11



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES
COLLEGE OF ENGINEERING
COMPUTER ENGINEERING DEPARTMENT

- or in reporting and/or disseminating research results subject to sanctions imposed both by the University, and in the case of research proposed to or funded by an institution or agency outside the University system, by that institution or agency.
2. Researchers are expected to maintain the highest standards of honesty and integrity. Any form of academic dishonesty, including but not limited to the following, is a serious offence:
- 2.1 Falsification and/or Fabrication of Data. Researchers should never publish data they know to be false and/or fabricated or the result of deliberate acts of falsification and/or fabrication.
- 2.2 Plagiarism. Researchers should not knowingly represent any published or unpublished work of another researcher/s as their own or assist anyone else in carrying it out. Research works done by others must be appropriately and adequately acknowledged. Plagiarism is an extreme form of academic dishonesty. Researchers who have been reported to have plagiarised another work shall bear the burden of rebutting the presumption by evidence satisfying the person or body hearing the case that no such plagiarism was committed.
- 2.3 Misuse of Privileged Information. Misuse of privileged information taken from a grant application or manuscript received from a funding agency or journal editor for peer review is one particular form of a serious act of plagiarism. In this case, plagiarism is committed as a serious act of theft of intellectual property depriving the original author of appropriate credit by citation or acknowledgment, and also pre-empting priority of first publication or utilization of the original idea to which the original author is entitled. Plagiarism is also committed by showing a privileged unpublished document to an unauthorized person. It is the intention of this Policy to hold the unauthorized person to which a privileged unpublished document is shown and/or unduly revealed liable to a shared responsibility for any subsequent plagiarism.
- 2.4 Use and Misuse of Data and Information. Researchers are presumed to have acquainted themselves with relevant methods available for processing data, including graphical and tabular methods of presentation, error analysis, and tests for reliability. Research integrity demands that reported conclusions are based on accurately recorded data or observations. It is considered a breach of research integrity to fail to report data that contradict or merely fail to support stated conclusions, including purposeful withholding of information about factors that confound research results. This Policy requires researchers to publish discrepancy or wrongly disregarded data and/or information confirmed by an approved statistical test. Intentional or reckless disregard for truth in reporting observations and information or data shall be considered to be an act of research misconduct.

Page 2 of 11



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES
COLLEGE OF ENGINEERING
COMPUTER ENGINEERING DEPARTMENT

2.5 Conflict of Interest. Where the researcher has a material interest of any nature, be it personal, financial, career or otherwise, which may conflict with the researcher's duty of honesty and integrity, a conflict of interest is established. A researcher is advised to disclose it in writing to his/her superior and to all other persons to whom it should be disclosed, in accordance with the highest standards of honesty and integrity.

2.6 Misuse of Research Funds. Researchers and directors of research projects that have been approved for funding must follow guidelines on the use of funds and all university guidelines on the management and disbursement of funds scrupulously. Research funds must not be diverted for personal or any other use, except otherwise stipulated in the contract.

3. Reporting and Deliberating on Suspected Misconduct. Reporting suspected research misconduct is a shared professional responsibility of all members of the academic community. Allegations are handled under procedures stipulated by the University Research Ethics Board that shall handle the investigation of the case. All reports are treated confidentially to the extent possible. Protection of whistle-blowers against retaliation shall be guaranteed under policies of both the University and state regulations.

4. Rectification of Errors. If an error, either intentional or inadvertent, or of plagiarism is discovered, the University Research Ethics Board shall demand a researcher who is found out to be liable to submit a correction and retraction in a form specified by the editor or publisher and, in the case of research misconduct, in a form specified by the University and a sponsoring or funding agency.

B. Human Research Ethics

1. Where a research involves human subjects, researchers are required to carry out the research in a manner that respects the rights of the persons who are the subjects of the research.
2. The following shall be the primary consideration in planning and conducting research with human participants
 - 2.1. Minimal risk of harm (i.e., physical, psychological, social, economic, legal) to participants and researchers;
 - 2.2. Benefit to society;
 - 2.3. Respect for the dignity of participants;
 - 2.4. Minimal risk of damage or harm to the community or society;
 - 2.5. Human subjects or participants' voluntary informed consent, or special safeguards where this is not possible;
 - 2.6. Transparency in declaring funding sources;

Page 3 of 11



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES
COLLEGE OF ENGINEERING
COMPUTER ENGINEERING DEPARTMENT

- 2.7. Strict confidentiality of information supplied by research participants and anonymity of respondents;
 - 2.8. Acknowledgement of assistance;
 - 2.9. Appropriate publication and dissemination of research results, and
 - 2.10. Researchers must exhibit independence and impartiality.
 3. Some participants may be particularly vulnerable to harm and may require special safeguards during the conduct of research. These participants might be:
 - 3.1. Infants and children under the age of eighteen;
 - 3.2. Participants with physiological/medical conditions, and/or with physical disabilities
 - 3.3. Participants with learning difficulties or disabilities;
 - 3.4. Participants who are psychologically incapacitated and/or under emotional stress;
 - 3.5. Participants in extreme poverty or economically disadvantaged;
 - 3.6. Indigenous groups or ethnic and racial minorities;
 - 3.7. Participants with hardly a basic knowledge of the language of the researcher or those who are educationally disadvantaged; and
 - 3.8. Other vulnerable groups such individuals who are into substance abuse, who are in incarcerated or the prisoners, pregnant women, sex workers, etc.
 4. In the event that participation in research would lead to psychological discomfort or anxiety, the researcher/s and the department/college engage in research must provide debriefing program to counter these negative effects on human subjects.
- C. Animal Research Ethics
1. The University recognizes the importance of the use of animal subject, whether in a domestic or wild state, in research. Animals must be used in research that will further knowledge in the field and will yield results that are beneficial to the society.
 2. Animals may be used in scientific procedures in a variety of ways which entail their manipulation in different purposes such as:
 - 1.1 biomedical and pharmaceutical researches, experiments, studies or investigations;
 - 1.2 instruction and teaching tools;
 - 1.3 product (food, drugs, agrochemicals, cosmetics, etc.) testing;
 - 1.4 production of antisera or other biological products;
 - 1.5 as experimental subjects for new surgical procedures; and
 - 1.6 as subjects in experimental psychology laboratory research.

Page 6 of 11



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES
COLLEGE OF ENGINEERING
COMPUTER ENGINEERING DEPARTMENT

3. No harm, stress or pain must be caused to any animal subject in an experiment unless justified in the research methodology, in accordance to the existing regulations and ethical guidelines in conducting research involving animals.
4. No research involving animals shall be conducted without the supervision of a faculty adviser who is trained and competent in the conduct of experiments involving animals.
5. To ensure care and ethical treatment of animals, researchers in the University are obliged to strictly observe the standards such as those covered by the following (1) the Republic Act No. 8485, An Act to Promote Animal Welfare in the Philippines otherwise known as "The Animal Welfare Act of 1998"; (2) the Philippine Association for Laboratory Animal Science (PALAS); (3) the Guide for Care and Use of Laboratory Animals, Institute of Laboratory Animal Resources, National Research Council, USA; and (4) the International Guiding Principles for Biomedical Research Involving Animals, Council for International Organizations of Medical Sciences.

D. Research Data Management

1. Research data comprise of all recorded quantitative, narrative, verbal, and or visual materials collected and used in the conduct of research. These data may be in physical and electronic records, video, film or photographs, audiotape, digital or any other medium.
2. The University shall have ownership of all data generated by research projects conducted in the University whether funded or not funded, unless otherwise stipulated by any formal agreement.
3. No research shall be conducted that requires collection of data or information from any office of the University, or requiring the participation of its personnel and students, without the permission from the University administration. The administration may also require researchers access to data collected from the University in the course of the conduct of research.
4. Details of the complete records of the research undertaking must be properly kept and can be made accessible only when necessary. It is the responsibility of the researcher to ensure that data are properly stored and maintained, and to control access and sharing of data to collaborators and others who are involved in the research project.
5. Appropriate storage security must be established by the researcher to protect data from unauthorized access to research records, or avoid leakage or theft of laboratory information that has potential for new invention or innovation.

Page 5 of 11



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES
COLLEGE OF ENGINEERING
COMPUTER ENGINEERING DEPARTMENT

E. Biosafety

1. The University recognizes the immediate concern to safeguard its research personnel against any form of biological agents that may cause harm, injury, illness, or worst case, death. It is the obligation of the University to institute a biosafety program that will protect its research personnel.
2. The University adheres to the fundamental objective of any biosafety program is the containment of potentially harmful biological agents. The term "containment" is used in describing safe methods facilities and equipment for managing biohazardous agents in the laboratory environment where they are being handled or maintained. Containment is categorized as follows:
 - 2.1 Primary containment, provided by good microbiological technique and the use of appropriate safety equipment, i.e., the protection of personnel and the immediate laboratory environment from exposure to biohazardous agents, like the use of vaccines which may provide an increased level of personal protection.
 - 2.2 Secondary containment, provided by a combination of facility design and operational practices, i.e., the protection of the environment external to the laboratory from exposure to biohazardous agents. The purpose of the containment is to reduce exposure of laboratory workers and other persons to, and prevent escape into the outside environment of, potentially biohazardous agents.
3. The following fundamental elements of containment – laboratory practice and technique, safety equipment, and facility design – shall be strictly observed:
 - 3.1 Laboratory Practices and Technique
 - 3.1.1 Strict adherence to standard microbiological practices and techniques.
 - 3.1.2 Develop or adopt a biosafety or operations manual that identifies the hazards that will or may be encountered, and that specifies practices and procedures designed to minimize or eliminate exposures to these hazards.
 - 3.1.3 Additional measures must be adopted when the standard laboratory practices are not sufficient to control the hazards associated with a particular agent or laboratory procedure.
 - 3.2 Safety Equipment (Primary Barriers and Personal Protective Equipment)
 - 3.2.1 Safety equipment includes biological safety cabinets (BSCs), enclosed containers, safety equipment (gloves, coats, gowns, shoe covers, boots, respirators, face shields, safety glasses, or goggles) and other engineering

Page 6 of 11



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES
COLLEGE OF ENGINEERING
COMPUTER ENGINEERING DEPARTMENT

controls designed to remove or minimize exposures to hazardous biological materials.

3.2.2 The design and construction of the facility contributes to the laboratory workers' protection, provides a barrier to protect persons outside the laboratory, and protects persons or animals in the community from infectious agents that may be accidentally released from the laboratory.

3.3 Facility Design and Construction (Secondary Barriers)

3.3.1 The recommended secondary barrier(s) will depend on the risk of transmission of specific agents. For example, the exposure risks for most laboratory work in BSL-1 and BSL-2 facilities will be direct contact with the agents, or inadvertent contact exposures through contaminated work environments. Secondary barriers in these laboratories may include separation of the laboratory work area from public access, availability of a decontamination facility (e.g., autoclave), and hand washing facilities.

4. Appropriate facility design and engineering features, safety equipment, and management practices must supplement laboratory personnel, safety practices, and techniques.

5. Since the University research can be categories under Biosafety Level 2, the recommended laboratory practices are: GMT (Good Microbiological Techniques), protective clothing and biohazard sign. Safety equipment includes open bench plus BSC for potential aerosol (Table 1).

Table 1. Relation of risk groups to biosafety levels, practices and equipment

RISK GROUP	BIOSAFETY LEVEL	LABORATORY TYPE	LABORATORY PRACTICES	SAFETY EQUIPMENT
1	Basic-Biosafety Level 1	Basic teaching, Research	GMT	None, open bench work
2	Basic - Biosafety Level 2	Primary health services; diagnostic services, research	GMT plus protective clothing, biohazard sign	Open bench plus BSC for potential aerosols
3	Containment 1 - Biosafety Level 3	Special diagnostic services, research	As Level 2 plus special clothing, controlled access, directional airflow	BSC and/or other primary devices for all activities
4	Maximum Containment - Biosafety Level 4	Dangerous pathogen unit	As Level 3 plus airlock entry, shower exit, special waste disposal	Class III BSC or positive pressure suits in conjunction with Class II BSCs, double ended autoclave (through the wall), filtered air

* BSC, biological safety cabinet; GMT, good microbiological techniques



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES
COLLEGE OF ENGINEERING
COMPUTER ENGINEERING DEPARTMENT

Interpretations, the University Research Ethics Board shall inform the researchers involved that the publication of the relevant research should be postponed or withheld until all other matters pertaining to confirmation and evaluation of findings are considered.

3. Criteria for Authorship.

- 3.1 Publication must give appropriate credit to all authors for their roles in the research.
- 3.2 If more than one author contributes significantly, the decision of which names are to be listed as co-authors should reflect the relative contributions of various participants in the research.
- 3.3 Before publishing the relevant research, a contributing author should not be listed as co-author without his or her knowledge, permission, and review of the final manuscript version of the research.
- 3.4 Listing of so-called honorary authors, who do not meet the criteria for authorship, is considered unethical and is discouraged.
- 3.5 A person whose contribution merits co-authorship should be named even in oral presentations, especially when abstracts or transactions of the proceedings of a conference at which a paper is presented will be published.

4. Order of Authors.

- 4.1 In general, the order of authorship should be joint decision of the authors.
- 4.2 A corresponding, or lead author or principal investigator (usually the first or last of the listed names in a multi-authored manuscript) should be designated for every paper, who will be responsible for communicating with the publisher or editor, for informing all co-authors of the status of review and publication, and for ensuring that all listed authors have approved the submitted version of the manuscript. The principal author has a greater responsibility than his or her co-authors to vouch for the integrity of the research report.

5. Self-citations. In citing one's own unpublished work, an author must not imply an unwarranted status of a manuscript. A paper should not be listed as accepted for publication or in press unless the author has received galley proof or page proof or has received a letter from an editor or publisher stating that publication has been approved, subject perhaps only to copy-editing.

6. Duplicate Publication. Considered as a case of self-plagiarism, duplicate publication includes publication of a full paper or a substantial portion of paper in two or more

Page 9 of 11



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES
COLLEGE OF ENGINEERING
COMPUTER ENGINEERING DEPARTMENT

9. The UREB shall conduct periodic review, and recommend improvement in the provisions of this Policy.
10. The UREB shall have the following membership:
 - 7.1 Chair: Vice President for Research, Extension, Planning and Development, or his/her designated representative
 - 7.2 Vice Chair: University Legal Counsel, or his representative
 - 7.3 Members: Director of the concerned research Institute
Chief of IPCO/ITSO
A faculty expert on the research discipline/area
11. There should be a College Research Ethics Board which shall be composed of the following:
 - 8.1 Chair: College Dean
 - 8.2 Vice Chair: Program Chairperson
 - 8.3 Members: Research Cluster Coordinator
2 Faculty experts
12. In case a member of the UREB is involved (either as lead proponent or member) in a research submitted for evaluation by UREB, he/she must inhibit himself/herself from sitting as a member of UREB.

Prepared by:

Committee on R & D Manual Chapter on Research Ethics

- Chair: Assoc. Prof. Elmer G. De Jose
Chief, Intellectual Property and Commercialization Office
Chief, Graduate School Research and Extension Office
- Vice Chairs: Assoc. Prof. Virgilio A. Rivas
Director, Institute for Cultural Studies
Assoc. Prof. Angelina E. Borican, DEM
Director, Publications Office
- Members: Atty. Hirou Glenn A. Asuncion
University Legal Counsel Office
Asst. Prof. Lourdes V. Alvarez, PhD
Director, Institute for Science and Technology Research
Assoc. Prof. Hilda F. San Gabriel
Director, Institute for Social Sciences and Development
Asst. Prof. Ruthela Payawal
Faculty, College of Science
Engr. Jesus J. Bien Jr.
Innovation and Technology Support Office

Page 11 of 11



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES
COLLEGE OF ENGINEERING
COMPUTER ENGINEERING DEPARTMENT



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES
COLLEGE OF ENGINEERING
DEPARTMENT OF COMPUTER ENGINEERING



CONSULTATION FORM
2nd Semester, S.Y. 2018 - 2019

PROFESSOR Engr. Pedrito M. Tenerife Jr.
SUBJECT Design Project I

ROOM 302/313
SCHEDULE SAT 6-9PM

DATE	TIME	NAME OF STUDENT	SIGNATURE	TOPIC OF CONSULTATION	INTERVENTION
11/17/2018	6:00PM	Abuloc, Christopher	<i>Abuloc</i>	Revisions on Chapter 1	Change statement of the problem.
12/1/2018	6:00PM	Gallarda, Kylamicah	<i>Gallarda</i>	Checking Review of Related Literature	Revise synopsis for chapter 2.
12/15/2018	7:00PM	Gisulga, Cherry Mae	<i>Gisulga</i>	Reviewing Research Methodology	Change the methodology used to a more suitable method.
1/5/2019	6:00PM	Umerez, Gian Paolo	<i>Umerez</i>	Reviewing Research Methodology	Change the methodology used to a more suitable method.
1/19/2019	8:00PM	Gallarda, Kylamicah Gisulga, Cherry Mae	<i>Gallarda</i> <i>Gisulga</i>	Revisions on Chapter 2	Include more related literature.
2/16/2019	6:00PM	Abuloc, Christopher Umerez, Gian Paolo	<i>Abuloc</i> <i>Umerez</i>	Revisions on Chapter 3	Revise Block Diagram.
2/23/2019	7:00PM	Gallarda, Kylamicah Umerez, Gian Paolo	<i>Gallarda</i> <i>Umerez</i>	Checking of Chapter 1,2 and 3	Review document.
3/9/2019	7:00PM	Abuloc, Christopher Gisulga, Cherry Mae	<i>Abuloc</i> <i>Gisulga</i>	Checking of Chapter 1,2 and 3	Revise document format.

SUBMITTED TO:

ENGR. JULIUS S. CANSINO
Chairperson, CpE Department

NOTED BY:

DR. REMEDIOS G. ADO
OIC - Dean, College of Engineering



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES
COLLEGE OF ENGINEERING
COMPUTER ENGINEERING DEPARTMENT



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES
COLLEGE OF ENGINEERING
DEPARTMENT OF COMPUTER ENGINEERING



CONSULTATION FORM
1st Semester, S.Y. 2018 - 2019

PROFESSOR Dr. Arvin R. De La Cruz
SUBJECT Methods of Engineering Research

ROOM 300
SCHEDULE Wed 6-9PM

DATE	TIME	NAME OF STUDENT	SIGNATURE	TOPIC OF CONSULTATION	INTERVENTION
8/8/2018	6:00 PM	Gisuga, Cherry Mae		Thesis Title Proposal	Title not accepted. Submit another title.
8/15/2018	6:00 PM	Abuloc, Christopher		Thesis Title Proposal	Present and submit another title.
8/29/2018	6:00 PM	Gallarda, Kylamicah Umerez, Gian Paolo		Thesis Title Proposal	Present title.
9/5/2018	2:00 PM	Gisuga, Cherry Mae Gallarda, Kylamicah		Chapter 1 Checking	Review Chapter1.
9/7/2018	2:00 PM	Abuloc, Christopher Umerez, Gian Paolo		Chapter 1 Checking	Revise Background of the study.
9/12/2018	6:00 PM	Gallarda, Kylamicah		Chapter 2 Checking	Convert into thematic format.
10/3/2018	1:00 PM	Abuloc, Christopher Gallarda, Kylamicah		Chapter 3 Checking	Suggest another suitable research approach.
10/10/2018	2:00 PM	Gisuga, Cherry Mae Umerez, Gian Paolo		Chapter 3 Checking	Submit revised document.

SUBMITTED TO:

ENGR. JULIUS S. CANSINO
Chairperson, CPE Department

NOTED BY:

DR. REMEDIOS G. ADO
OIC - Dean, College of Engineering





POLYTECHNIC UNIVERSITY OF THE PHILIPPINES
COLLEGE OF ENGINEERING
COMPUTER ENGINEERING DEPARTMENT



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES
COLLEGE OF ENGINEERING
DEPARTMENT OF COMPUTER ENGINEERING



CONSULTATION FORM
1st Semester, S.Y. 2019 - 2020

PROFESSOR Engr. Pedrito M. Tenerife Jr.
SUBJECT Design Project II

ROOM 312
SCHEDULE F 5-8PM/ Sat 6-9PM

DATE	TIME	NAME OF STUDENT	SIGNATURE	TOPIC OF CONSULTATION	INTERVENTION
6/21/2019	5:00 PM	Gisulga, Cherry Mae		Revisions on Chapter 1	Review and revise statement of the problem.
6/29/2019	6:00 PM	Abuloc, Christopher		Revisions on Chapter 2	Make the statements more clear and concise.
7/13/2019	6:00 PM	Gallarda, Kylamicah		Revisions on Chapter 3	Revise sample size and methodology.
7/26/2019	5:00 PM	Umerez, Gian Paolo		Checking of Chapter 1,2 and 3	Review Document.
8/24/2019	6:00 PM	Gisulga, Cherry Mae		Survey Questionnaire	Create questionnaire related to the statement of the problem.
9/18/2019	2:00 PM	Gallarda, Kylamicah		Statistical Treatment of Data	Compute for sample size.
9/19/2019	3:00 PM	Abuloc, Christopher		Checking of Chapter 4	Revise the format of chapter 4.
9/20/2019	5:00 PM	Gallarda, Kylamicah		Checking of Chapter 5	Review and Revise conclusion, recommendation and summary.

SUBMITTED TO:

ENGR. JUDITH S. CANSINO
Chairperson, CpE Department

NOTED BY:

DR. REMEDIOS G. ADO
OIC - Dean, College of Engineering