

ACKNOWLEDGEMENT

We have been working on HanDIYcraft project for several months. Apart from our own best effort, there are many certain people that we would like to acknowledge their supports and encouragement they gave all along.

First of all, we would like to thank to Ms. Siraprapa Wattanakul, our project advisor who guide and consult us to accomplish the project from the beginning till the very end. Second is the Software Engineering Lecturers of College of Arts, Media and Technology, who gave us knowledge and suggestions in the presentation of every progress, which is also an important part of the success. Another group of people is our friends. We would like to thank them for the help they gave through out the time that we were developing our project.

Last but not the least, the most important people that we feel thankful for are our parents. Without them by our side, we would not be able to achieve the goal and be who we are today.

We are highly appreciated for all the supports and the good cheer from everyone that has pushed us this far. Thank you.

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ABSTRACT

Since the cost of living has been getting higher and higher, expenditure seems to be more than earnings. People are now tends to figure out their way to manage their money and reduce their expenses as much as possible. One way to do that is recycling items. The easiest and most interesting things to get recycled can be the stuffs around them, from knickknacks to utensils. DIY (Do it yourself) is a method to recycle, renovate, and repair old things without any professional skill required. Many people love to build creative DIY artworks and share them to others. Not only saving money, but people also could get their happiness and pride on themselves. However, the problem is they would not know where exactly they should buy certain materials to do their DIY artworks.

HanDIYcraft application provides several functions helping users to explore and share DIY ideas. Also, it allows users to communicate among each other by commenting, and with the shopkeeper by private messaging. It provides map function to solve the problem on finding shops to buy needed materials. On the other hand, shopkeepers are also able to provide information in order to advertise their shops to gain more customers. This application requires a smart phone on Android Operating System to serves portability to the users. Besides, there is also a web application provided for the bloggers in order to increase their visualization in wider screen. In addition, it uses Google Maps API to identify the location of shops, and Facebook API to let people share their favorite DIY tutorials.

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APPENDIX

Attribute Rating

Process attribute rating values: The ordinal rating scale defined below shall be used to express the levels of achievement of the process attributes.

▪ **N *Not achieved:*** There is little or no evidence of achievement of the defined attribute in the assessed process.

▪ **P *Partially achieved:*** There is some evidence of an approach to, and some achievement of, the defined attribute in the assessed process. Some aspects of achievement of the attribute may be unpredictable.

▪ **L *Largely achieved:*** There is evidence of a systematic approach to, and significant achievement of, the defined attribute in the assessed process. Some weakness related to this attribute may exist in the assessed process.

▪ **F *Fully achieved:*** There is evidence of a complete and systematic approach to, and full achievement of, the defined attribute in the assessed process. No significant weaknesses related to this attribute exist in the assessed process.

Project Management (PM) Process PM purpose

The purpose of the Project Management process is to establish and carry out in a systematic way the tasks of the software implementation project, which allows complying with the project's objectives in the expected quality, time and costs.

Objective	Description	Rating Result
PM.O1	The Project Plan for the execution of the project is developed according to the Statement of Work and validated with the Customer. The tasks and resources necessary to complete the work are sized and estimated.	L
PM.O2	Progress of the project is monitored against the Project Plan and recorded in the Progress Status Record. Corrections to remediate problems and deviations from the plan are taken when project targets are not achieved. Appropriate treatment is taken to correct or avoid the impact of risk. Closure of the project is performed to get the Customer acceptance documented in the Acceptance Record.	L
PM.O3	The Change Requests are addressed through their reception and analysis. Changes to software requirements are evaluated for cost, schedule and technical impact.	L
PM.O4	Review meetings with the Work Team and the Customer are held. Agreements are registered and tracked.	P
PM.O5	Risks are identified as they develop and during the conduct of the project.	P
PM.O6	A software Version Control Strategy is developed. Items of Software Configuration are identified, defined and baselined. Modifications and releases of the items are controlled and made available to the Customer and Work Team including the storage, handling and delivery of the items.	L
PM.O7	Software Quality Assurance is performed to provide assurance that work products and processes comply with the Project Plan and Requirements Specification.	L

Task lists for PM. Process**PM.1 Project planning, (PM.O1, PM.O5, PM.O6, PM.O7)**

Role	Task List	Evidence (item name/page/topic)	Rating Result
PM, TL	PM.1.1 Review the Statement of Work	HanDIYcraft- ProjectPlan- V.2.0/14/Reviews and Responsibility	L
PM, CUS	PM.1.2 Define with the Customer the Delivery Instructions of each one of the deliverables specified in the Statement of Work.	HanDIYcraft- ProjectPlan- V.2.0/26/Schedule and Milestone	L
PM, TL	PM.1.3 Identify the specific tasks to be performed in order to produce the deliverables and their software components identified in the Statement of Work. Include verification, validation and reviews with Customer and Work Team tasks to assure the quality of work products. Identify the tasks to perform the Delivery Instructions. Document the Tasks.	HanDIYcraft- ProjectPlan- V.2.0/7/Work product to be developed	L
PM, TL	PM.1.4 Establish the Estimated Duration to perform each task.	HanDIYcraft- ProjectPlan- V.2.0/18/Estimated Duration of Tasks	L
PM, TL	PM.1.5 Identify and document the resources: human, material, equipment and tools, including the required training of the Work Team to perform the project. Include in the schedule the dates when resources and training will be needed.	HanDIYcraft- ProjectPlan- V.2.0/9/Infrastructure	P
PM, TL	PM.1.6 Establish the Composition of Work Team assigning roles and responsibilities according to the Resources.	HanDIYcraft- ProjectPlan- V.2.0/14/Reviews and Responsibility	P
PM, TL	PM.1.7 Assign estimated start and completion dates to each one of the	HanDIYcraft- ProjectPlan-	L

	tasks in order to create the Schedule of the Project Tasks taking into account the assigned resources, sequence and dependency of the tasks.	V.2.0/18/Estimated Duration of Tasks HanDIYcraft-ProjectPlan-V.2.0/26/Schedule and Milestone	
PM, TL	PM.1.8 Calculate and document the project Estimated Effort and Cost.	HanDIYcraft-ProjectPlan-V.2.0/22/Estimated Effort and Cost	P
PM, TL	PM.1.9 Identify and document the risks which may affect the project.	HanDIYcraft-ProjectPlan-V.2.0/23/Identify of Project Risk	P
PM, TL	PM.1.10 Document the Version Control Strategy in the Project Plan.	HanDIYcraft-ProjectPlan-V.2.0/24/Version Control Strategy	L
PM, TL	PM.1.11 Generate the Project Plan or update it. Furthermore, the Project Plan can be updated due to the Change Request made by the Customer or arising from the project.	HanDIYcraft-ProjectPlan-V.2.0/1/Document History	L
PM, TL	PM.1.12 Include product description, scope, objectives and deliverables in the Project Plan.	HanDIYcraft-ProjectPlan-V.2.0/4/Introduction	L
PM, TL	PM.1.13 Verification of the Project Plan. Verify that all Project Plan elements are viable and consistent. The results found are documented in a Verification Results and corrections are made until the document is approved by TL.	-	N
PM, CUS	PM.1.14 Validation of the Project Plan. Validate that the Project Plan elements definition match with the Statement of Work. The results found are documented in a Validation Results and corrections are made until the	-	N

	document is approved by CUS.		
PM, TL	PM.1.15 Establish or prepare the project repository using the Version Control Strategy.	HanDIYcraft-ProjectPlan-V.2.0/24/Version Control Strategy	L

PM.2 Project plan execution (PM.O2, PM.O3, PM.O4, PM.O5, PM.O7)

Role	Task List	Evidence (item name/page/topic)	Rating Result
PM, TL, WT	PM.2.1 Review the Project Plan and record actual data in Progress Status Record.	HanDIYcraft- ProjectPlan- V.2.0/11/Status Reporting	L
PM, TL	<p>PM.2.2 Analyze and evaluate the Change Request for cost, schedule and technical impact, and include the accepted changes in the Project Plan.</p> <p>The Change Request can be initiated externally by the Customer or internally by the Work Team.</p> <p>The evaluation of Change Request initiated by Customer or those which affects the Customer needs. Negotiate with Customer to obtain its acceptance (see PM.2.4).</p>	HanDIYcraft- ProjectPlan- V.2.0/12/Change Management	P
PM, TL, WT	PM.2.3 Conduct revision meetings with the Work Team, review risk status, record agreements and track them to closure.	HanDIYcraft- ProjectPlan- V.2.0/24/Project Meeting	P
PM, CUS, TL, WT	<p>PM.2.4 Conduct revision meetings with the Customer, record agreements and track them to closure.</p> <p>Change Request initiated by Customer or initiated by Work Team, which affects the Customer, needs to be negotiated to reach acceptance of both parties.</p>	HanDIYcraft-CR- V.2.0	L
PM	PM.2.5 Perform backup according to the Version Control Strategy.	HanDIYcraft- ProjectPlan- V.2.0/24/Version Control Strategy	L

PM	PM.2.6 Perform Project Repository recovery using the Project Repository Backup, if necessary.	HanDIYcraft-ProjectPlan-V.2.0/24/Version Control Strategy	L
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PM.3 Project assessment and control (PM.O2)

Role	Task List	Evidence (item name/page/topic)	Rating Result
PM, TL, WT	PM.3.1 Evaluate project progress with respect to the Project Plan, comparing: -actual tasks against planned tasks -actual results against established project objectives -actual resource allocation against planned resources -actual cost against budget estimates -actual time against planned schedule -actual risk against previously identified	-	N
PM, TL, WT	PM.3.2 Establish actions to correct deviations or problems and identified risks concerning the accomplishment of the plan, as needed, document them in Correction Register and track them to closure.	-	N
PM, WT	PM.3.3 Identify changes to requirements and/or Project Plan to address major deviations, potential risks or problems concerning the accomplishment of the plan, document them in Change Request and track them to closure.	HanDIYcraft-ProjectPlan-V.2.0/12/Change Management	P

PM.4 Project closure (PM.O2)

Role	Task List	Evidence (item name/page/topic)	Rating Result
PM, CUS	PM.4.1. Formalize the completion of the project according to the Delivery Instructions established in the Project Plan, providing acceptance support and getting the Acceptance Record signed.	-	N
PM	PM.4.2 Update Project Repository.	HanDIYcraft- ProjectPlan- V.2.0/1/Document History HanDIYcraft- ProjectPlan- V.2.0/24/Version Control Strategy	L

Software Implementation (SI) process SI purpose

The purpose of the Software Implementation process is the systematic performance of the analysis, design, construction, integration and tests activities for new or modified software products according to the specified requirements.

Objective	Description	Rating Result
SI.O1	Tasks of the activities are performed through the accomplishment of the current Project Plan.	P
SI.O2	Software requirements are defined, analyzed for correctness and testability, approved by the Customer, baselined and communicated.	L
SI.O3	Software architectural and detailed design is developed and baselined. It describes the software items and internal and external interfaces of them. Consistency and traceability to software requirements are established.	L
SI.O4	Software components defined by the design are produced. Unit test are defined and performed to verify the consistency with requirements and the design. Traceability to the requirements and design are established.	L
SI.O5	Software is produced performing integration of software components and verified using Test Cases and Test Procedures. Results are recorded at the Test Report. Defects are corrected and consistency and traceability to Software Design are established.	P
SI.O6	A Software Configuration, that meets the Requirements Specification as agreed to with the Customer, which includes user, operation and maintenance documentations is integrated, baselined and stored at the Project Repository. Needs for changes to the Software Configuration are detected and related Change Requests are initiated.	L

SL.O7	Verification and Validation tasks of all required work products are performed using the defined criteria to achieve consistency among output and input products in each activity. Defects are identified, and corrected; records are stored in the Verification/Validation Results.	P
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SI.1 Software Implementation initiation (SI.O1)

Role	Task List	Evidence (item name/page/topic)	Rating Result
PM, TL, WT	SI.1.1 Revision of the current Project Plan with the Work Team members in order to achieve a common understanding and get their engagement with the project.	-	N
TL, WT	SI.1.2 Set or update the implementation environment.	HanDIYcraft- ProjectPlan- V.2.0/9/Project Specific System Administration Support Needed	L

SI.2 Software requirements analysis (SI.O2, SI.O6, SI.O7)

Role	Task List	Evidence (item name/page/topic)	Rating Result
TL, WT	SI.2.1 Assign tasks to the Work Team members in accordance with their role, based on the current Project Plan.	HanDIYcraft-ProjectPlan-V.2.0/14/Reviews and Responsibility	L
AN, WT	<p>SI.2.2 Document or update the Requirements Specification.</p> <p>Identify and consult information sources (customer, users, previous systems, documents, etc.) in order to get new requirements.</p> <p>Analyze the identified requirements to determinate the scope and feasibility.</p> <p>Generate or update the Requirements Specification.</p>	HanDIYcraft-SRS-V.3.0	L
N	<p>SAI.2.3 Verification of the Requirements Specification.</p> <p>Verify the correctness and testability of the Requirements Specification and its consistency with the Product Description. Additionally, review that requirements are complete, unambiguous and not contradictory. The results found are documented in a Verification Results and corrections are made until the document is approved by AN. If significant changes were needed, initiate a Change Request.</p>	-	N
US, N	SCI.2.4 Validation of the Requirements Specification Validate that Requirements	-	N

	Specification satisfies needs and agreed upon expectations, including the user interface usability. The results found are documented in a Validation Results and corrections are made until the document is approved by CUS.		
AN	SI.2.5 Document the preliminary version of the Software User Documentation or update the present manual. (Optional)	-	N
AN	SI.2.6 Verification of the Software User Documentation Verify consistency of the Software User Documentation with the Requirement Specification. The results found are documented in a Verification Results and corrections are made until the document is approved by AN. If significant changes were needed, initiate a Change Request. (Optional)	-	N
TL	SI.2.7 Incorporate the Requirements Specification, and *Software User Documentation to the Software Configuration in the baseline. *(Optional)	-	N

SI.3 Software architectural and detailed design (SI.O3, SI.O6, SI.O7)

Role	Task List	Evidence (item name/page/topic)	Rating Result
TL, AN, DES	SI.3.1 Assign tasks to the Work Team members related to their role according to the current Project Plan.	HanDIYcraft- ProjectPlan- V.2.0/14/Reviews and Responsibility	L
AN, DES	SI.3.2 Understand Requirements Specifications.	-	N
AN, DES	<p>SI.3.3 Document or update the Software Design:</p> <p>Analyze the Requirements Specification to generate the architectural design, its arrangement in subsystems and software components defining the internal and external interfaces. Describe in detail, the appearance and the behavior of the interface, based on the Requirements Specification in a way that resources for its implementation can be foreseen.</p> <p>Provide the detail of software components and their interfaces to allow the construction in an evident way. Generate or update the Traceability Record.</p>	<p>HanDIYcraft-SDD- V.3.0</p> <p>HanDIYcraft-TR- V.3.0</p>	L
AN, DES	<p>SI.3.4 Verification of the Software Design</p> <p>Verify correctness of Software Design documentation, its feasibility and consistency with their Requirement Specification. Verify that the Traceability Record contains the adequate relationships between</p>	-	N

	requirements and the Software Design elements. The results found are documented in a Verification Results and corrections are made until the document is approved by AN. If significant changes were needed, initiate a Change Request.		
DES	SI.3.5 Establish or update Test Cases and Test Procedures for integration testing based on Requirements Specification and Software Design. Customer provides testing data, if needed.	HanDIYcraft-Test Plan-V.3.0	L
AN, DES	SI.3.6 Verification of the Test Cases and Test Procedures. Verify consistency among Requirements Specification, Software Design and Test Cases and Test Procedures. The results found are documented in a Verification Results and corrections are made until the document is approved by AN.	-	N
DES	SI.3.7 Update the Traceability Record incorporating the Test Cases and Test Procedures.	HanDIYcraft-TR-V.3.0/18/Unit Testing HanDIYcraft-TR-V.3.0/21/System Testing	L
TL	SI.3.8 Incorporate the Software Design, Test Cases, Test Procedures and Traceability Record to the Software Configuration as part of the baseline.	HanDIYcraft-ProjectPlan-V.2.0/25/Configuration Item Table	L

SI.4 Software construction (SI.O4, SI.O6, SI.O7)

Role	Task List	Evidence (item name/page/topic)	Rating Result
TL	SI.4.1 Assign tasks to the Work Team members related to their role, according to the current Project Plan.	HanDIYcraft-ProjectPlan-V.2.0/14/Reviews and Responsibility	L
PR	SI.4.2 Understand Software Design.	-	N
PR	SI.4.3 Construct or update Software Components based on the detailed part of the Software Design and define or update unit test cases.	-	N
PR	SI.4.4 Apply unit test cases to verify that functions work accordingly to the detailed part of the Software Design.	HanDIYcraft-Test Plan-V.3.0/9/Unit Testing of HanDIYcraft Web Application HanDIYcraft-Test Plan-V.3.0/38/Unit Testing of HanDIYcraft Mobile Application	L
PR	SI.4.5 Correct the defects found until successful unit test (reaching exit criteria) is achieved.	-	N
PR	SI.4.6 Update the Traceability Record incorporating Software Components constructed or modified.	HanDIYcraft-TR-V.3.0/1/Document History	L
TL	SI.4.7 Incorporate Software Components and Traceability Record to the Software Configuration as part of the baseline.	HanDIYcraft-ProjectPlan-V.2.0/25/Configuration Item Table	L

SI.5 Software integration and tests (SI.O5, SI.O6, SI.O7)

Role	Task List	Evidence (item name/page/topic)	Rating Result
TL	SI.5.1 Assign tasks to the work team members related to their role, according to the current Project Plan.	HanDIYcraft-ProjectPlan-V.2.0/14/Reviews and Responsibility	L
PR	SI.5.2 Understand Test Cases and Test Procedures. Set or update the testing environment.	HanDIYcraft-Test Plan-V.3.0	L
PR	SI.5.3 Integrates the Software using Software Components and defines or updates Test Cases and Test Procedures for integration.	-	N
PR, CUS	SI.5.4 Perform tests using Test Cases and Test Procedures for integration and document results in Test Report.	HanDIYcraft-Test Record-V.3.0	L
PR	SI.5.5 Correct the defects found until successful test (reaching exit criteria) is achieved.	-	N
PR	SI.5.6 Updates the Traceability Record if appropriate.	HanDIYcraft-TR-V.3.0/1/Document History	L
PR	SI.5.7 Document the Product Operation Guide or update the current guide, if appropriate.	-	N
PR, CUS	SI.5.8 Verification of the Product Operation Guide, if appropriate (see SI.5.7) Verify consistency of the Product Operation Guide with the Software. The results found are documented in a Verification Results and corrections are made until the document is approved by PR.	-	N

AN	SI.5.9 Document the Software User Documentation or update the current one, if appropriate.	-	N
AN, CUS	SI.5.10 Verification of the Software User Documentation, if appropriate (see SI.5.9) Verify consistency of the Software User Documentation with the Software. The results found are documented in a Verification Results and corrections are made until the document is approved by AN.	-	N
TL	SI.5.11 Incorporate the Software, Traceability Record, Test Report, Product Operation Guide and Software User Documentation to the Software Configuration as part of the baseline.	HanDIYcraft- ProjectPlan- V.2.0/25/Configuration Item Table	P

SI.6 Product delivery (SI.O6, SI.O7)

Role	Task List	Evidence (item name/page/topic)	Rating Result
TL, WT	SI.6.1 Assign tasks to the work team members related to their role, according to the current Project Plan.	HanDIYcraft-ProjectPlan-V.2.0/14/Reviews and Responsibility	L
DES	SI.6.2 Understand Software Configuration.	HanDIYcraft-ProjectPlan-V.2.0/25/Configuration Item Table	L
DES	SI.6.3 Document the Maintenance Documentation or update the current one.	-	N
DES	SI.6.4 Verification of the Maintenance Documentation. Verify consistency of Maintenance Documentation with Software Configuration. The results found are documented in a Verification Results and corrections are made until the document is approved by DES.	-	N
TL	SI.6.5 Incorporate the Maintenance Documentation as baseline for the Software Configuration.	-	N
TL	SI.6.6 Perform delivery according to Delivery Instructions.	HanDIYcraft-ProjectPlan-V.2.0/7/Work Product to be developed	L