Code Review Guidelines

1. Data Dictionary
2. Code review not required for the TR with only DDIC objects. Screen shot of the same along with SCI shall be the part of the review document.
3. Reports (New)
4. Ensure SCI is clear with Zero errors and warnings.
5. Ensure SLIN is clear with Zero errors and warnings.
6. Ensure Header documentation.
7. Ensure Functional specification attachment in Solman. The FS attachment should be in Solman prior to TR creation.
8. Ensure that the Test data is submitted and confirmation that Unit Testing is done in mail.
9. Confirmation as to why the same was not developed in Fiori. – **Tech Team Lead call**
10. UI Check need to be carried out as per the guidelines document.
11. Ensure that all the new developments are carried out in OOPS ALV.
12. Different name space shall be followed for objects from External agencies other than ‘Y’ or ‘Z’.

a. Review Guidelines

1. Ensure that there are no Break points in object before code review.
2. Recommendation: Avoid using DEAD CODE. Please check and remove from all over the code. Indicate with proper comments, if the code is essential in future.
3. Ensure proper Naming Conventions as per RIL naming conventions document.
4. Ensure Authorization check for the Transaction Code. **(Exception as subroutines/form printing routine/i.e. yggbs000, RV65A01). In case if being called from Standard T-Code, indicate the same.**
5. Maintain CONSTANT if any value (eg: INR, etc) has been use **many places** in prog.
6. Use data element name instead of Field Name all through the code. This is for performance increase as the program will go to table & take that particular field in place of looking globally.
7. Recommendation: Avoid using Select \* / Select Single \* statement for tables having huge number of fields. Instead of that use the fields which will be needed in the next steps. Indicate with proper comments in case of fetching all fields.
8. Give SY-SUBRC check after every Select /Select single statements. **It should be done if dependent statement is there after query.**
9. Recommendation: Use FIELD SYMBOL in place of Work Area if MODIFY table in its LOOP.
10. Recommendation: Using BINARY SEARCH when using a READ TABLE statements, check for SORT also based on logic and the same is mandatory in case of Binary search usage.
11. Use SY-SUBRC check after every READ TABLE statements.
12. Given a check in case of FOR ALL ENTRIES. (Not Initial & Duplicate Record). Ensure that all the referring table fields are not blank.
13. Recommendation: Avoid using INTO CORRESPONDING FIELDS. Instead of that use INTO TABL**E.** Justify the same in case of using into corresponding fields.
14. **Very Important:** Check for Inline Comments for IMPORT / EXPORT Memory command.
15. Use FREE MEMORY in case of IMPORT Memory. In case of data object, use delete statement.
16. COMMIT WORK shall always be followed with ROLL BACK so that data is restored in case of errors.
17. While Using BAPI: In case BAPI returns error use ROLL BACK else use COMMIT WORK.
18. In case of BAPI – Create, Change, check for authorization object.
19. Use Lock Mechanism for operations Delete, Modify and update and also ensure that exceptions are properly handled for enqueue function module.
20. INSERT, UPDATE, DELETE on standard table not allowed, and instead use corresponding BAPI.
21. WAIT statement is exempted only in case when there is Do 60 times & then WAIT for 1 Second.
22. Check the following are not used:

* COMMIT WORK inside enhancement / Update Function Module / BADI Implementation
* COMMIT WORK inside loop
* SORT statement within BADI Implementation
* SORT statement within LOOP
* Recommendation: SELECT statement within LOOP
* SORT standard internal tables / structure in enhancement

1. Recommendation: Index checking – All select statement should be using key / Index.
2. Type, Data declaration should be on top, not inside loop.

Local data can be declared inside form-Endform, Method.

1. If SELECT statement has aggregate function (count / Distinct etc), check WHERE clause, it should be INDEX based.
2. Since on pool / Cluster table INDEX is not there, tell developer to use Key field for data fetch.
3. **Recommendation subject to tech team lead approval:** There should be NO CODE REVIEW for Z-Prog BDC. Tell developer to use BAPI or FM.
4. Recommendation: New Param table entries should not be created and used. Instead use only specific tables created for business functionality.
5. TVARC and TVARV tables should be avoided for getting RFC destinations and specific tables shall be created accordingly.
6. Wait statements are only accepted if they are optimized or in case like copying from one server to another server, Old functionality, fetching data from remote system.
7. Avoid usage of Negative operators and Like statements in select statement where condition. Data declarations indicating Like statement shall be avoided and instead TYPES shall be used.
8. Ensure that Denominator is not initial prior to computation statement.
9. Cross check the Code of all Transport requests for DO 60 times. Same shall be intimated if Do 60 times is not used for Wait statement optimization.
10. Avoid using Constants for hard coding values like Company code, Address, Country code, Currency, Unit of Measure, Vendor, Customer, Material, Plant, Storage Location, Cost centre, RFC Destinations and User ID’s etc particularly in Forms and also in all other developments. Prior approval shall be taken before review.
11. Always ensure that secondary indexes created are maintained in separate CD instead of including the indexes in development objects CD.
12. Recommendation: Delete Records is not permissible for either ‘Z’ or ‘Y’ table and instead flag these records as deleted in the table.
13. Use Text Elements instead of Hard coding. Use message class wherever possible.
14. Avoid Delete statement inside loop.
15. Avoid Nested loops. Use parallel Cursors to enhance performance.
16. Free temporary internal table after data selection.
17. In case of updating a Custom Table in enhancement like Badi /User Exit, same shall be carried out in update Function Module.
18. Inner Joins are restricted for only two tables.
19. Reports (Old)
20. Ensure SCI is clear with Zero errors and warnings.
21. Ensure Functional specification attachment in Solman. The FS attachment should be in Solman prior to TR creation.
22. Ensure that the Test data is submitted and confirmation that Unit Testing is done in mail.
23. Check of the delta part and ensure that the above indicated review guidelines which are to be followed.
24. Module Pool
25. Ensure SCI is clear with Zero errors and warnings.
26. No abbreviations on screen.
27. If there are multiple frames are present on screen, alignment for all of them is required.
28. For screen fields labels follow all the guidelines mentioned above.
29. Provide description for all the fields for which descriptions are available like Plant, Storage Location, Material Number, Document Type, Company Code etc. Besides these fields on screen also in table control.
30. Buttons related to table control entries must be above table control and in the left most corner and not besides or below table control.
31. For Custom buttons if any, all UI guidelines must be followed.
32. BDC
33. Ensure SCI is clear with Zero errors and warnings.
34. Recommendation: Call Transaction on Z-TCODE not allowed.
35. For upload and Download File, follow the format provided in UI Guidelines document.
36. Ensure that the listed review guidelines are followed.
37. Scripts/Smart Forms /Adobe Forms
38. For Smart Forms and Adobe Forms, ensure renaming of the dynamic generated Function Module in driver program.
39. Form should be approved by Harshad Makwana / Prashant Ayare & the scan Copy need to upload in SOLMAN for carrying out the review.

In case of HND FORMS need to approved by Mr. Milind Mulye/Mr. Yogesh Khule.

1. Form interface shall be in line with the review guidelines.
2. Enhancements
3. Recommendation: All Exit / Enhancement, code should be part of Z function module
4. Code indicated in enhancements shall not exceed more than 15 lines.
5. Never use Commit work in Enhancements.
6. Avoid using EXIT and CHECK statements in enhancements.
7. Webdynpro ABAP and FPM Developments
8. All the Webdynpro developments must be implemented on FPM.
9. All the input fields should be displayed right aligned.
10. Follow the UI Guide lines and review guidelines as per the provided documents.
11. Fiori Developments (New)
12. Ensure submission of listed documents prior to Code review :
13. Functional Specification.
14. Mock Up with RFC linkage.
15. EDM.
16. Technical Specification.
17. List of Function Modules.
18. URL List.
19. Performance Traces(Both \*.xls and \*.doc files)
20. STAD Analysis for Major process.
21. Test Data.
22. EDM and ODATA review shall be carried out as per ODATA review guidelines available in shared Folder.
23. Review of all the Function Modules shall be carried out as per guidelines.
24. Fiori Developments (OLD)
25. Ensure that the listed documents (i –ix) indicated above are in Shared ABAP Team folder.
26. Review of the delta part shall be carried out as per guidelines.
27. ODATA review shall be carried out on changes in DPC Extension classes or creation of New DPC extension classes.
28. Mail Sending Programs
29. Hard copy of the mail should be approved by Harshad Makwana / Prashant Ayare & the scan Copy need to be uploaded in SOLMAN for carrying out the review.
30. Follow the Guidelines for Mail sending Program as per the document enclosed in Shared folder.
31. Code shall be in line with review guidelines.
32. Work Flow Task
33. Task text need to be checked and Work Flow task should be validated by respective team prior to Code review.
34. Web Services
35. Before calling Web Service, ensure that the import parameter in Method/ Function Module is not initial.
36. In case of web service used in program, exception handling has to be there in the program.
37. All TIBO interface SAP RFC should have returning parameter like BAPIRET2 for message/exception handling.
38. SAP Note Implementation
39. Review is not required for SAP Note Implementation and only the document needs to be uploaded in Solman.
40. SAP suggested Z-Program for Note implementation should be maintained with Header documentation indicating the entire details of the SAP Note.